MODERN PACKAGING

SUCCESS STORY: *Micrin oral antiseptic* | *Complete c* | **JANUARY 1962**

will use National Specialty Adhesives

In labeling, carton forming, and case sealing, National specialty adhesives . . . used for the past half-century . . . have contributed greatly to the packaging leadership that has helped make Hershey's products their own best salesmen.

National ADHESIVES

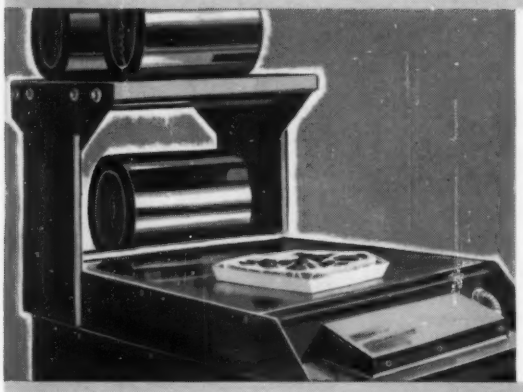
NATIONAL STARCH and CHEMICAL CORPORATION

750 Third Avenue, New York 17, N. Y. Offices in All Principal Cities in the United States, Canada, England, Mexico and Australia
Makers of a broad line of Adhesives, Synthetic Resins and Starches for packaging.

GOODYEAR

announcing...

new 75M PLIOFILM



Plus a new system for faster in-store wrapping of all meats

Greater bloom retention and clarity are but two of the main advantages of new 75M PLIOFILM. Just as important is a speedy hand-wrapping system, completely new to in-store meat packaging.

This wrapping system has already proved successful in the produce field. It combines fast handling with easy-to-use, less expensive 75M roll stock to cut costs substantially.

Remember that 75M PLIOFILM is the only film you'll need. Either side wraps all types of meat—fresh-cut, frozen and smoked—wraps them with the positive heat-seal and durability for which PLIOFILM is noted. Get the full story on this great new film and wrapping system. Write Goodyear, Packaging Films, Dept. M-6418, Akron 16, Ohio.

PLIOFILM—Better Protection at Lower Cost

GOODYEAR

FILM PRODUCTS

Pliofilm, a rubber hydrochloride—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

IN THIS ISSUE OF MODERN

JANUARY 1962 / VOLUME 35 / NO. 5

FRONT FEATURES

MODERN PACKAGING, Executive and Editorial Offices, 770 Lexington Ave., New York 21, N. Y. Phone PLaza 9-2710

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PACKAGING®
THE COMPLETE AUTHORITY OF PACKAGING

MP

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ABC ABP

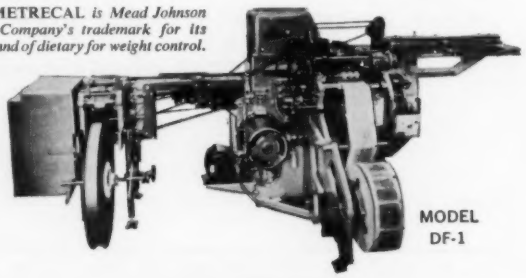
How Package Helps Metrecal* Get a New, Trim Look

It's new . . . it's Metrecal in wafer form . . . with inner and outer wraps both done on Package machines. A high-speed Model DF-1 (that will wrap up to 150 packages a minute) gives Metrecal the advantage of two Package exclusives. The 3 on 3 pack needs no bottom card, and its easy opening tape is positioned to leave a neat envelope still holding six wafers after it is opened. The DF-1 gives gentle handling, yet individual packages are neat and tight, with positive sealing that helps keep the contents fresh.

The full Metrecal box, containing four 9-wafer packs, is overwrapped on a Package Model FA. Its smart, tight wrap is completely sealed to lengthen shelf life.

You get speeds up to 125 a minute with a Model FA, plus fast size changes and accurate electric eye registration. It handles a variety of materials, including polyethylene, will wrap cartons, trays or specialty items. To find how you can wrap more efficiently and economically, call your Package representative. He has a full equipment line to help solve your problems.

*METRECAL *is Mead Johnson & Company's trademark for its brand of dietary for weight control.*



MODEL DF-1

PACKAGING IS PART OF YOUR PROFIT PICTURE

PACKAGE MACHINERY COMPANY, EAST LONGMEADOW, MASS.

NEW YORK · PHILADELPHIA · ATLANTA · BOSTON · CLEVELAND · CHICAGO · KANSAS CITY
DALLAS · HOUSTON · LOS ANGELES · SAN FRANCISCO · SEATTLE · TORONTO · MEXICO CITY

PACKAGE PMMI

Striking! Daring! Different!
Dobeckmun is geared to give
your gift package the distinction
that today's competition demands.
The big difference — the imaginative
use of the widest range
of packaging materials
available from any one source!

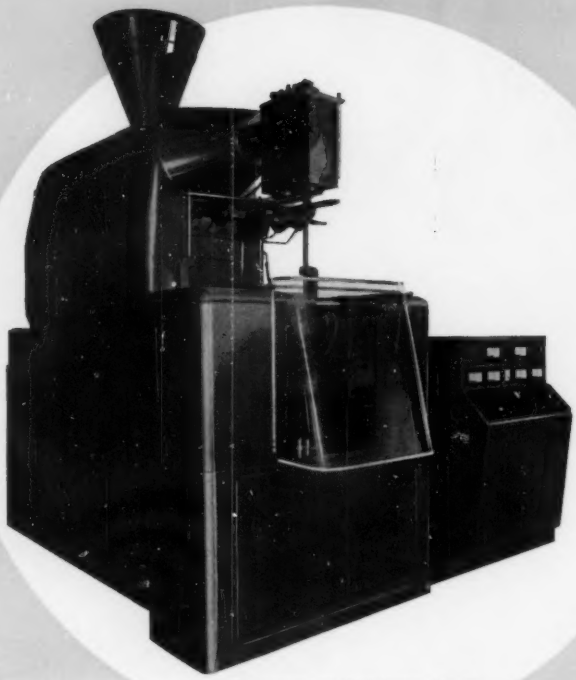
packages for performance

DOBECKMUN

Why not go to the people who really know packaging? Take today's flexible gift packaging for spirits—its easy removal adds to customer convenience while automatically creating post-season inventory savings. The look and feel of quality is the eye-catching contribution of Trycite®. Other striking and unique effects come from Dobeckmun's Metalam®—a colorful aluminum foil laminated to films or papers. Superior printing and lamination are equally vital in creating the package that is distinctly yours. Whichever materials you select, Dobeckmun always adds the most decisive ingredient of all—creative originality. THE DOBECKMUN COMPANY, a Division of The Dow Chemical Company, Cleveland 1, Ohio · Berkeley 10, California · Offices in most principal cities.

KAUTEX

Blow Molding Machines for hollow articles up to 260.000 cc.



For processing of all thermoplastics
Fully and semi-automatic
One- and two-colored articles
finished in one single operation
Screw extruder and closing device in one unit
Automatic: Rectangular movement –
vertical tube feed

KAUTEX Method Known Throughout The World

Easy adjusting – easy handling – easy changing of molds
Horizontal and vertical stroke limitation
Lifting delay allows production of extra-long articles
Minimum non-productive times ensure up to 2.000 cycles per hour
One blow mold, yet up to 3 cavities
Five machines for articles up to 8.000–10.000–18.000–110.000–260.000 cc.
Over 120 patents in more than 30 countries

KAUTEX leading in the field of blow molding techniques

Kautex-Machines Inc.
536 East Elizabeth Ave.
Linden, N.J., U.S.A.
Phone: Wabash 5-0305, 5-0306
Distribution and
Demonstration Center of

KAUTEX-WERKE

REINOLD HAGEN
HANGELAR/SIEGBURG
WEST GERMANY

DAVIS ACETATE HELPS THE DIMES MARCH!

Davis Acetate was selected to solve a problem posed by this coin collector. A precise die-cut coin slot was one requirement. Great rigidity and the ability to stand up under the weight of the hoped-for donations were others. Equally important, the thermo-formed flanged bubble had to exactly fit a prescribed die-cut area. Davis Acetate completely filled the bill for Plaxall, Inc., L. I. City, N. Y., specialists in thermo-forming—was selected above all others for its ability to combine rigidity and precision with brilliance and clarity. Davis extruded acetate sheets, rolls and films come in all gauges—transparent, translucent or opaque—and are ideal for all kinds of vacuum and pressure forming applications. We have been supplying the packaging industry with plastic materials for over 40 years, and we welcome the opportunity to help packagers with their problems. Let us send you a brochure on our facilities and the wide range of plastics we produce, their properties and applications.

BUBBLE PRESSURE-FORMED BY PLAXALL, L. I. CITY, N. Y. EXTRUDED ACETATE BY JOSEPH DAVIS PLASTICS COMPANY

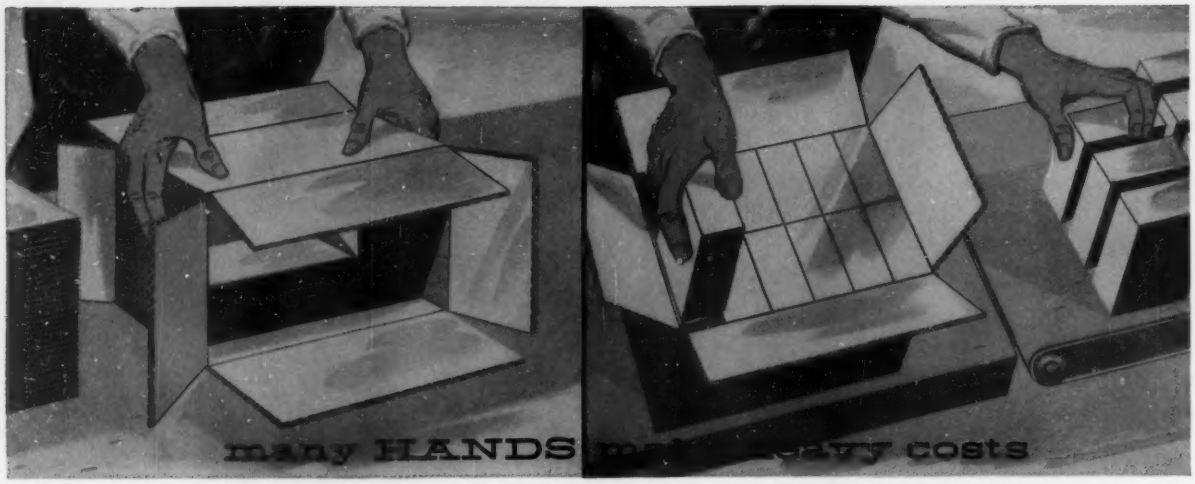
JODA

Joseph Davis

PLASTICS COMPANY

430 Schuyler Avenue, Kearny, N. J.

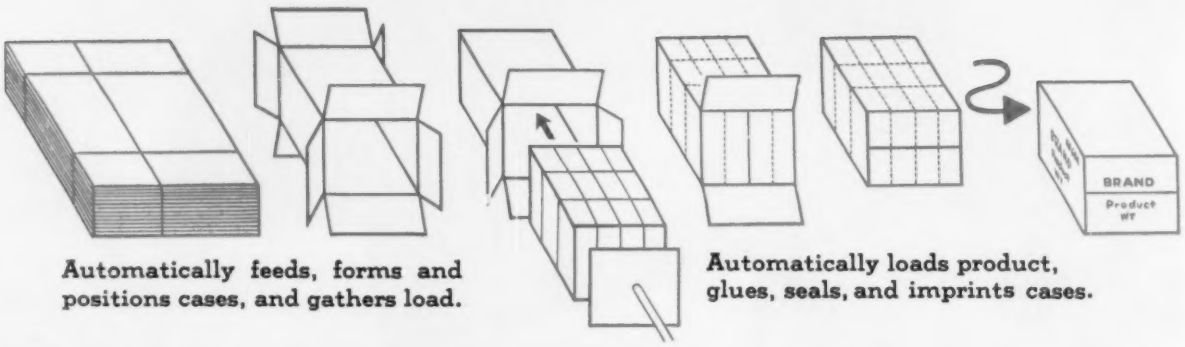
Phone: WYman 1-0980 New York: BArclay 7-6421



let Packomatic®
T.M. Reg. U. S. Pat. Off.

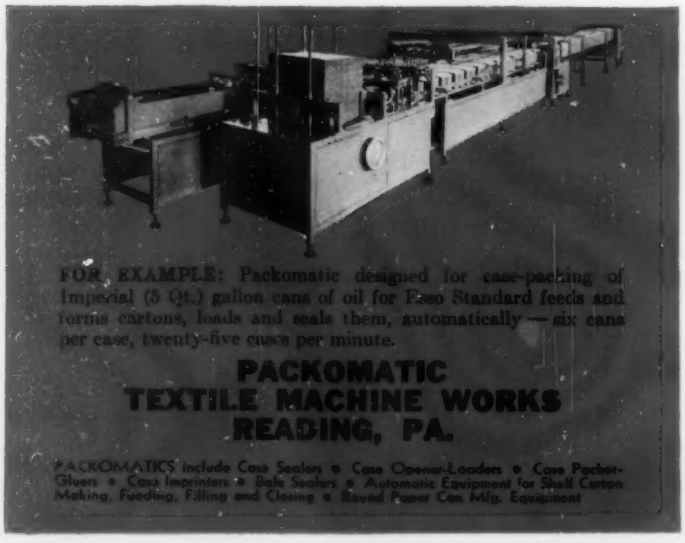
equipment do any or all your casing operations

AUTOMATICALLY



Automatically feeds, forms and positions cases, and gathers load.

Automatically loads product, glues, seals, and imprints cases.



FOR EXAMPLE: Packomatic designed for case-packing of Imperial (5 Qt.) gallon cans of oil for Esso Standard feeds and forms cartons, loads and seals them, automatically — six cans per case, twenty-five cases per minute.

PACKOMATIC
TEXTILE MACHINE WORKS
READING, PA.

PACKOMATICS include Case Sealers • Case Openers-Loaders • Case Packer-Gluers • Case Imprinters • Bale Sealers • Automatic Equipment for Shell Carton Making, Feeding, Filling and Closing • Waxed Paper Can Mfg. Equipment

For casing round, square, rectangular or free-form packages of virtually any size

You need not be a **big** company to enjoy the economies of Packomatic equipment. If your volume requires even one person to hand-form cases, hand-fill, hand-seal, or hand-imprint them, then a Packomatic machine can be a sound investment. Only a minute or two of attention at infrequent intervals is needed even for a **complete** automated Packomatic **line,** capable of matching the output of a dozen pair of hands. And in addition to reducing direct labor production costs Packomatic can, by utilizing end-opening shipping cases, reduce your paper-board costs up to 25%. And mechanically end loaded cases are stronger because the flaps give added resistance to weight and shock. In addition they stack better because their uniformly flat sides enables keying of pallet loads. Write, wire or phone us for facts on how to reduce your case packing costs.

Max. Label Width	4-7/8"	4-1/2"	
Max. Container Dia. or Thickness	4-1/4"	3-3/4"	3-1/2"
Speed	65/min.	75/min.	80/min.

When packages are unusual in shape, and the label registration and glue application exacting, leading cosmetic packagers depend on

THE PONY EXPRESS LABELER

THE EXTREME requirements and controls needed in labeling these nationally advertised products may also be important to you. If so, these 8 features of the Pony Express Labeler (with the N. J. suction labeling system) can help you: 1. Accurate label register to within 1/64". 2. Controlled bottle handling. 3. Provides full surface exposure of the label to the glue applicator. 4. Micro-controlled adhesive film eliminates "glue-ooze". 5. Center line label application. 6. No air pockets, picker marks, blisters or wrinkles. 7. Bottle wiping and inspection unnecessary. 8. Changeover in 30 to 45 minutes.

Give us a call. Our representative will gladly discuss your production needs with you—or write us for technical literature.

Labeling, Cartoning, Paper Box Machinery

NEW JERSEY MACHINE CORPORATION

MAIN OFFICE AND PLANT • 16TH ST. AND WILLOW AVENUE, HOBOKEN, N. J. • OLDFIELD 9-0483

FACTORY SALES AND SERVICE BRANCHES: 325 W. HURON ST., CHICAGO 10, ILLINOIS, 2500 W. 6TH ST., LOS ANGELES 57, CALIFORNIA

Blister Pack by
HOPPLE PLASTICS, INC.
CINCINNATI, OHIO

Why have rack sales of this manufacturer increased 1,000% in five years?

—Merry Manufacturing Company finds pilferage reduced, too.

Low-priced "My Merry Toys" rely heavily on impulse buying to maintain sales at high volume.

That's why the Merry Line is packaged and rack-displayed in transparent blister packs of Celanese Acetate.

Blister packs give maximum visibility to merchandise . . . keep multi-part items safely together . . . protect against dust, damage, and pilferage . . . *and do it all inexpensively.*

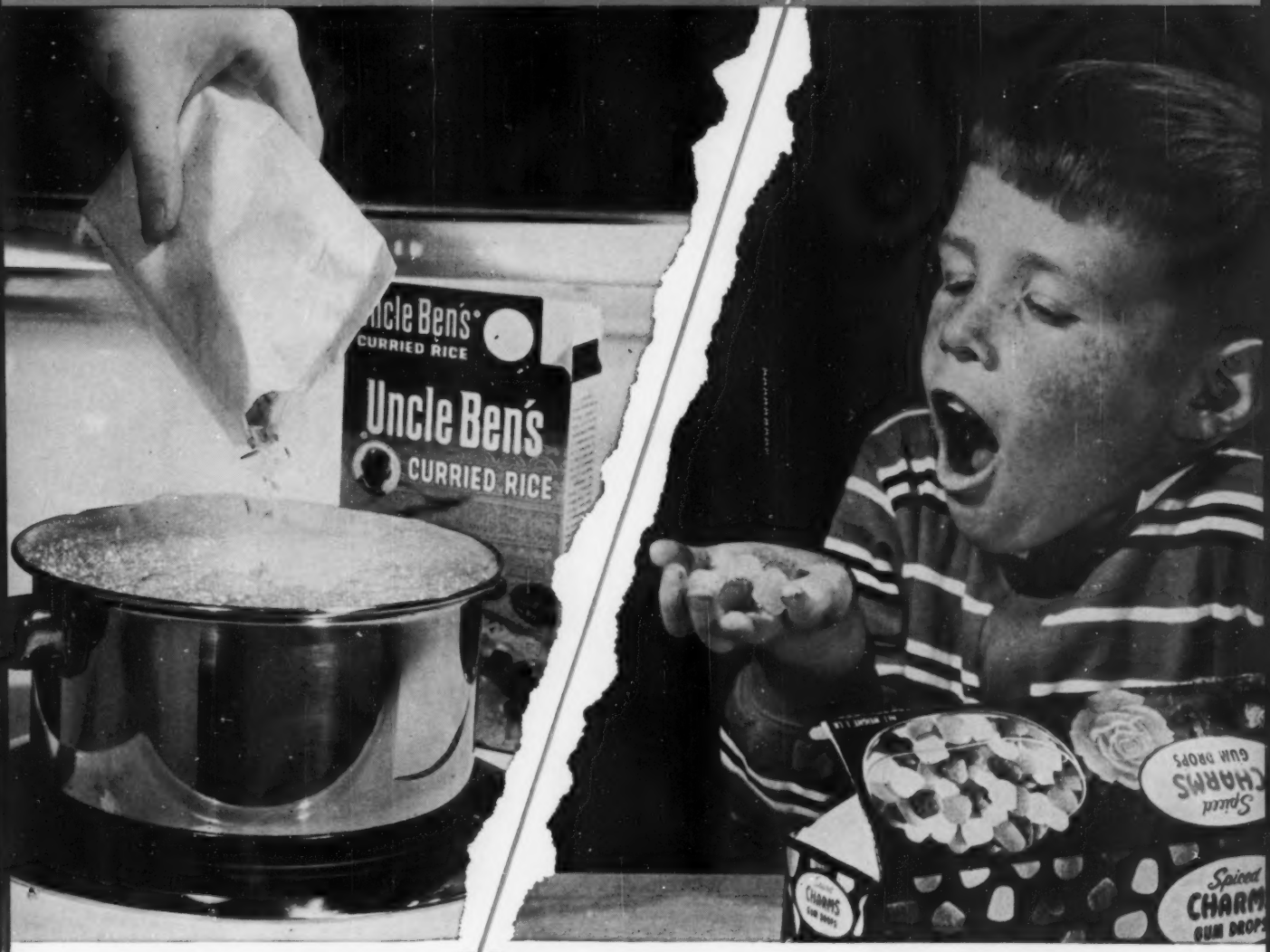
The blister pack was made-to-order for today's self-service marketing. And sparkling Celanese Acetate is made-to-order for blister packs. We can help you adapt this popular packaging method to your products. Write: Celanese Plastics Company, Dept.108-A, 744 Broad Street, Newark 2, New Jersey. Celanese®

Celanese Plastics Company is a Division of Celanese Corporation of America.
Canadian Affiliate: Canadian Chemical Company Limited, Montreal, Toronto, Vancouver.
Export Sales: Amcel Co., Inc., and Pan Amcel Co., Inc., 522 Fifth Avenue, New York 36.

MATERIALS FOR Celanese MODERN PACKAGING

POLYETHYLENE FILM . . . ACETATE FILM AND SHEETING . . . PLASTIC CONTAINERS

PACKAGING
CURRY *and* / *or* CANDY



MARATHON HAS THE ANSWER

Printing at Marathon means so many things. Letterpress, offset, roto, flexograph. In addition Marathon makes engravings for colorful package pictorials, etches roto cylinders, even produces printing inks.

And *Marathon has the answer* to the material you want to print . . . paper, paperboard, film, foil; coated or laminated sheets or rolls.

Take Curries like Uncle Ben's Curried Rice, for example. This carton features 4-color litho printing on HiFi* D Board. Marathon skills enter into every production step . . . design, photography, plates, printing. Inner pouches, MARAFLEX P for rice and MARAFLEX PF for seasoning, are specially designed for proper product protection.

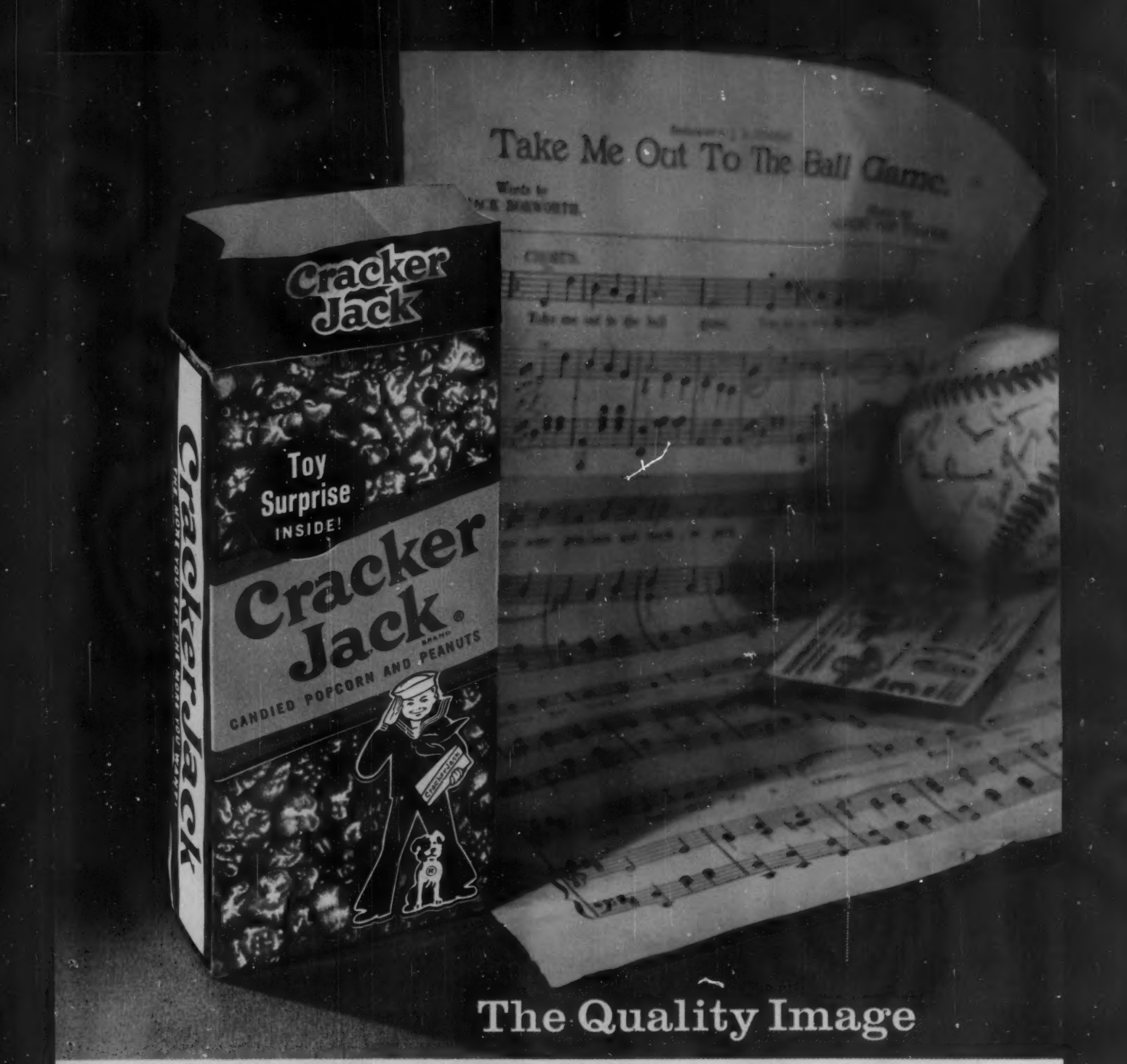
Candy overwraps such as these Charms wrappers are another proof of Marathon printing that sells. This roto-printed wrapper features six colors on Marathon Hi-Fi paper, is Glamakoted to glamorize the final package. Regardless of the product you package, the point to remember is this: *Marathon has the answer.*

General Packaging Department, Marathon, A Division of American Can Company, Menasha, Wisconsin. In Canada: Marathon Packages Limited, Toronto 3.

**Registered Trade-Mark*

For packaging . . . and ideas . . .

you can't beat marathon



The Quality Image

PICTURED ABOVE... FAMOUS PRODUCT OF THE CRACKER JACK CO.

Look to the Leader in Aluminum Packaging

REYNOLDS ALUMINUM

However famous a product, however long established... its Quality Image can be importantly enhanced by aluminum foil packaging. Aluminum's gleaming beauty bespeaks Quality! Its superior protection maintains Quality! Let us show you how this "productive packaging" can help *you*. Call any Reynolds sales office. Or write **Reynolds Metals Company**, Richmond 18, Virginia.

QUALITY PROTECTED WITH Reynolds Wrap ALUMINUM PACKAGING *Seal tells all!*

Watch Reynolds exciting TV programs on NBC: the Dick Powell REYNOLDS ALUMINUM SHOW every other Tuesday; SAY WHEN, weekdays; ALL STAR GOLF — in living color — every Saturday.

we put teeth in the package, too

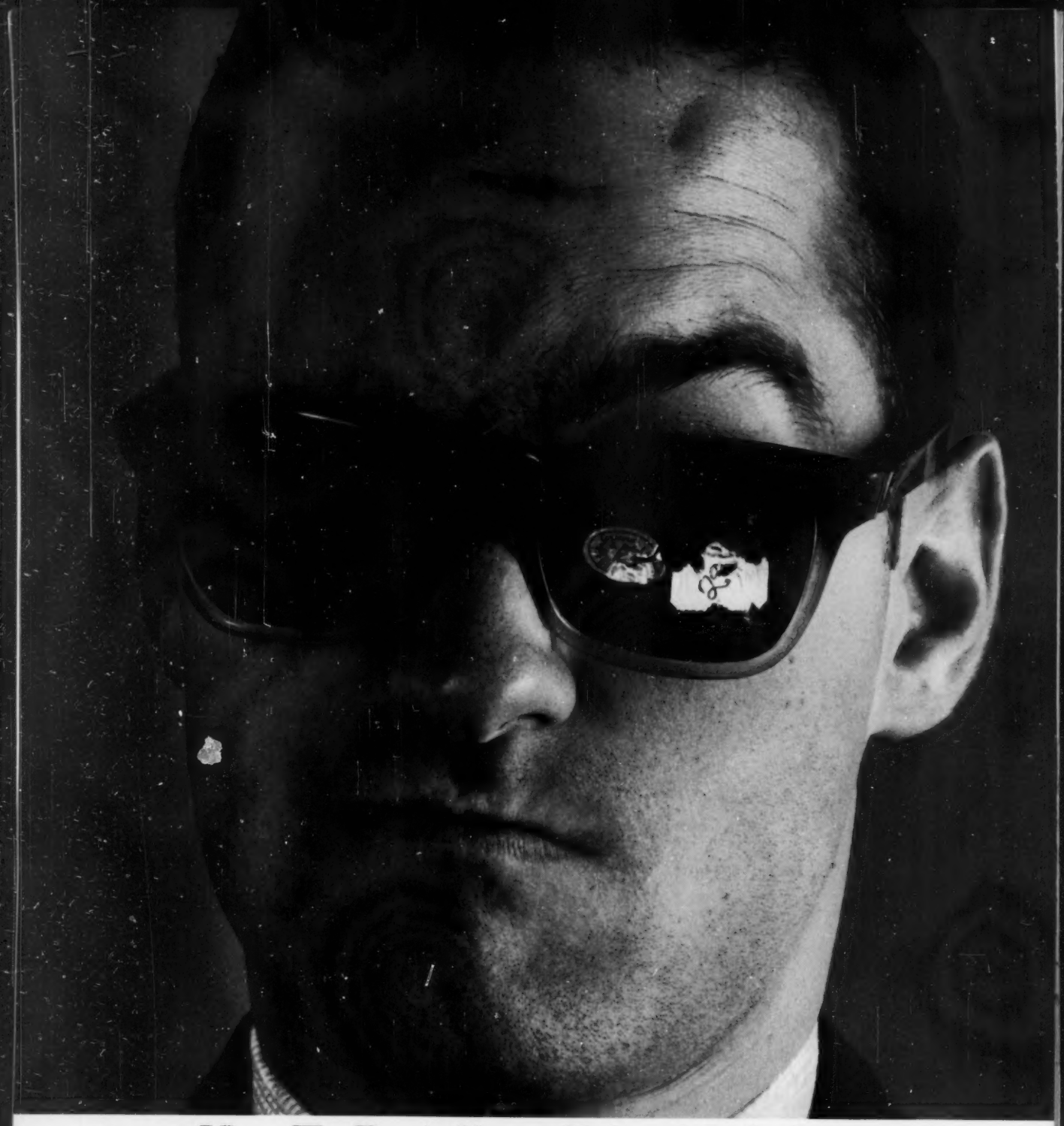
Twin-pak opens for display, invites multi-purchase. Perforated for single sales, too.

Which of the five senses sells the strongest: sight, smell, touch, taste or hearing? It depends on the product, of course. Take saw blades. A do-it-yourselfer isn't content merely to *see* the pattern of the blades. He wants to *feel* the set of the teeth, too. Packaging saw blades safely, attractively and economically takes real craftsmanship. The kind we've been achieving for a vast range of products – everything from hardware, to ham, to hosiery. We'd be glad to analyze *your* packaging needs. Just write or call.

STANDARD PACKAGING CORPORATION

200 EAST 42 ST. N. Y. 17, N. Y. STAN-PAK

FILM AND FOIL PACKAGING / FOLDING AND SET-UP BOXES / CLOSURES AND CAP LINERS / PAPER PAILS, CANS, TRAYS / LABELS AND OVERWRAPS / LAMINATIONS



How To Be A Short-Sighted Labeler

If you would be as short-sighted as the chap with the 20-nothing vision there, keep this rule firmly in mind: AVOID AVERY'S NEW K-6 SUPER-REMOVABLE LABELS. Reasons: 1. Pressure-sensitive labels with K-6 adhesive are the world's easiest to remove, even from the smoothest surfaces—if you used them you'd be missing a good chance to intimidate customers who would otherwise find difficulty in removing the labels from your products. 2. K-6 (an Avery exclusive) leaves no sticky residue on glass, plastic, or shiny metal products to mar the finish—if you used K-6 you'd be losing a swell opportunity to provoke customers who prefer new products to look new. 3. Like all pressure-sensitive products, K-6 labels are easy to handle, stick with a touch. And they're ideal for countless labeling operations—if you used them you'd be throwing away an excellent chance to squander funds on expensive production involving heat, water or solvents.

If, on the other hand, you have a tendency toward FAR-sightedness and need *any* kind of label—removable or permanent—you'll get along fine with Avery... the most respected name in pressure-sensitive products. Write for FREE SAMPLES of Avery K-6 labels to: Avery Label Company, 1616 S. California Avenue, Monrovia, California.

Got a Sticky Problem?

AVERY Avery Label Company
A Division of
Avery Adhesive Products, Inc.

Cellu-Craftsmanship heats up sales for "BVD" Thermals

Sales of famous "BVD" steam-heated underwear come to a boil when the freeze is on. Cellu-Craft helps keep the fires fully stoked by pouring on an abundance of converting craftsmanship and merchandising skill. This same combination can help you raise the tempo (and temperature) of your sales, too. A blast on your steam whistle (or a letter) will bring a Cellu-Craft packaging consultant highballing to your side. No obligation, of course.

CELLU-CRAFT
PRODUCTS COMPANY
A Division of Rapid-American Corporation

General Offices: 1401 Fourth Avenue, New Hyde Park, N. Y. Telephone PRimrose 5-8000 • *Sales Offices in principal cities* • DESIGNING of flexible packages. PRINTING: Glolux® Gravure, Process, Line & Tone Flexography on Cellophane, Polyethylene, Glassine, Extrusion Coatings, Laminations, Acetate, Pliofilm, Foil. EXTRUSION COATINGS AND LAMINATIONS on Cellophane, Foils, Mylars, Papers, Fabrics. CONVERTING: Rolls, Sheets, Bags, Pouches, Envelopes.

Blow-molded carton liner made of new BAKELITE DPD-6169 Ethylene Copolymer by Reliance Products Ltd. Winnipeg, Canada.

A blow-molded carton liner? ...Yes, it's practical with BAKELITE DPD-6169.

New liquid packaging: this blow-molded carton liner was designed for transporting battery acid. In this particular application DPD-6169 Ethylene Copolymer was the *only* polyethylene that performed satisfactorily . . . under extensive testing and in actual use. With other materials, the repeated vibrations in transit that set up air-liquid interfaces, too often resulted in failure. Now, with blow-molded DPD-6169 you can get safe, sure, economical shipments not only of acids but many other liquids, as well.

Several advantages: besides the most important benefit—*no failure*—the blow-molded DPD-6169 liner has other important advantages. One is economy. Not only is the resin highly economical, but also the method: blow-molding lends itself very readily to automated production. Another advantage is more economical use of shipping space: square cartons handle more product per given amount of shipping space. Still another is the ease of dispensing through the long flexible delivery tube.

Unique characteristics: BAKELITE DPD-6169 Ethylene Copolymer has an unusual combination of natural characteristics that can lead to many new industrial packaging ideas. . . .

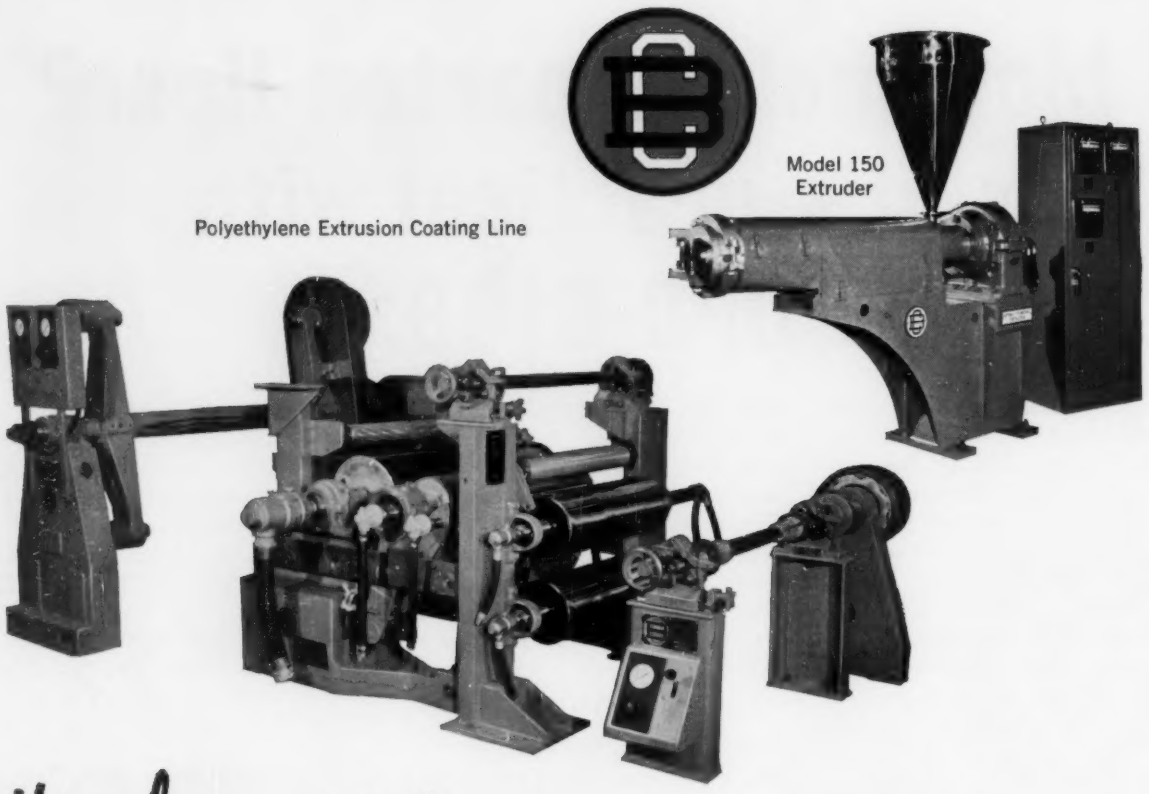
Excellent low-temperature performance—Maintains flexibility at temperatures colder than −105°C. Materials which require added plasticizers simply cannot do this. And this flexibility is combined with unusual toughness and stress-cracking resistance.

Natural flexibility—DPD-6169 is naturally *flexible*. Again: no plasticizer. This means freedom from embrittlement and other problems due to migration. Flex life is excellent: in flex-cracking tests, using Ross Rubber Test Apparatus, DPD-6169 survived more than 2,000,000 cycles at room temperatures; other flexible plastics failed at from 10,000 to 135,000 cycles.

Easy molding and extrusion—Experience has thoroughly proved excellent flow characteristics and processing latitude.

What can you make from DPD-6169? For assistance in putting BAKELITE DPD-6169 to work to help solve your packaging problems, and for complete technical information, write Dept. LK-86A, Union Carbide Plastics Company, Division of Union Carbide Corporation, 270 Park Ave., N. Y. 17, N. Y. *In Canada:* Union Carbide Canada Limited, Toronto 12.

UNION CARBIDE PLASTICS



You buy experience...

with Complete Extrusion-Coating-Laminating Machine Lines by Dilts

Jim Melead, Chief Engineer (left) and Gene Lowey, Manager of Extruder Sales discuss a recent extrusion-coating machine line order.

The best ideas which are constantly offered by leading converters are built into this equipment.

The latest, proven features of induction-heating, precise temperature and pressure control are embodied in the Black-Clawson Aetna-Standard extruder.

The technical knowledge and experience of Dilts in engineering plastic coater-laminators, continuous unwinds and winds is extensive.

Give full responsibility for coordination and engineering of your complete extrusion-coating line to the people who have made so many successful "packaged" installations.

Complete machine lines for pilot or commercial production

WEB WIDTHS:	20" to 134"
ROLL DIAMETERS:	30" to 96"
EXTRUSION RATES:	150 to 2000 lbs. per hr.
SPEEDS:	100 to 1200 fpm

DILTS DIVISION
Fulton, New York
CONVERT WITH CONFIDENCE

BLACK-CLAWSON

Lady Luxury soaps are a product of Beacon Enterprises, Chicago, Ill.

How to do three jobs with one Celon band

This see-through Celon is a *seal.* It grips the top to the apothecary jar until ready for use. It's a *design element,* too—smart, dainty, decorative. And it *carries a message.* (In this case Beacon Enterprises were able to put their name on the collar, making a separate label unnecessary.) For a demonstration of how Thatcher Celons can do three or more jobs for *you,* send us your bottle. We'll return it promptly, Celon-sealed for your consideration. No obligation. ***A great package is a great Idea.***

Thatcher

THATCHER GLASS MANUFACTURING COMPANY
375 Park Avenue New York 22, New York
CELON DIVISION, Muscatine, Iowa / PLASTIC CONTAINERS, New York, N.Y

15 to 90 gallon containers have been successfully produced on the Williams-White production blow molder

Now! Production BLOW MOLD containers to 90-gallon capacity reliably · economically

Production blow molding of large containers is reliably accomplished through rigid construction of precision components into a massive structure. Applying the vast store of engineering knowledge acquired through more than a century of building heavy bending, forming, pressing and molding equipment for the metal, wood and plastics industries, Williams-White has evolved a blow molder to withstand arduous day-in, day-out production.

Economical production is effected by design features permitting quick changeover of dies and molds. Continuous operation is achieved with minimum labor. The massive structure reduces wear and maintenance for maximum operating economies.

Machine capacity includes 80-ton clamp pressure, platen area of 56" x 56", accumulator capacity (.95 density) of 36 pounds and a parison diameter of 5½" to 14". Maximum clamp stroke of 36" and 80" daylight are other factors determining maximum product size. Ask for bulletin 151 for more detailed information.

Complete laboratory facilities are available to customers and prospective customers for mold development and related testing projects for a nominal fee. Write today for additional information or to make arrangements to see a Williams-White blow molder in operation.

107th year

WILLIAMS-WHITE & CO. 600 Third Avenue, Moline, Illinois

Hot plate presses • Laboratory presses • Molding presses
Metal forming & bending machines • Plywood & particle board presses

the measure of Performance Reliability for more than a century

Mouth-watering beauty

The Necco family of boxed candies for supermarkets has been repackaged to create a high quality image.

The designers, Lippincott and Margulies, Inc., artfully arranged dishes of candy against star-patterned backgrounds, with foregrounds of draped fabrics to set off the lettering, and caught their lifelike realism in handsome color photography. Evaluation studies showed illustrations of the candy in this glamorous environment carried more emotional appeal than the actual candy seen through box windows.

For five of the ten packages in the line, the New England Confectionery Company chose Forbes for the exacting task of reproducing the mouth-watering beauty of these designs. They are printed in seven-color gravure on cellophane.

Call Forbes for the best in package printing, *Forbes-quality* printing, by gravure and lithography.

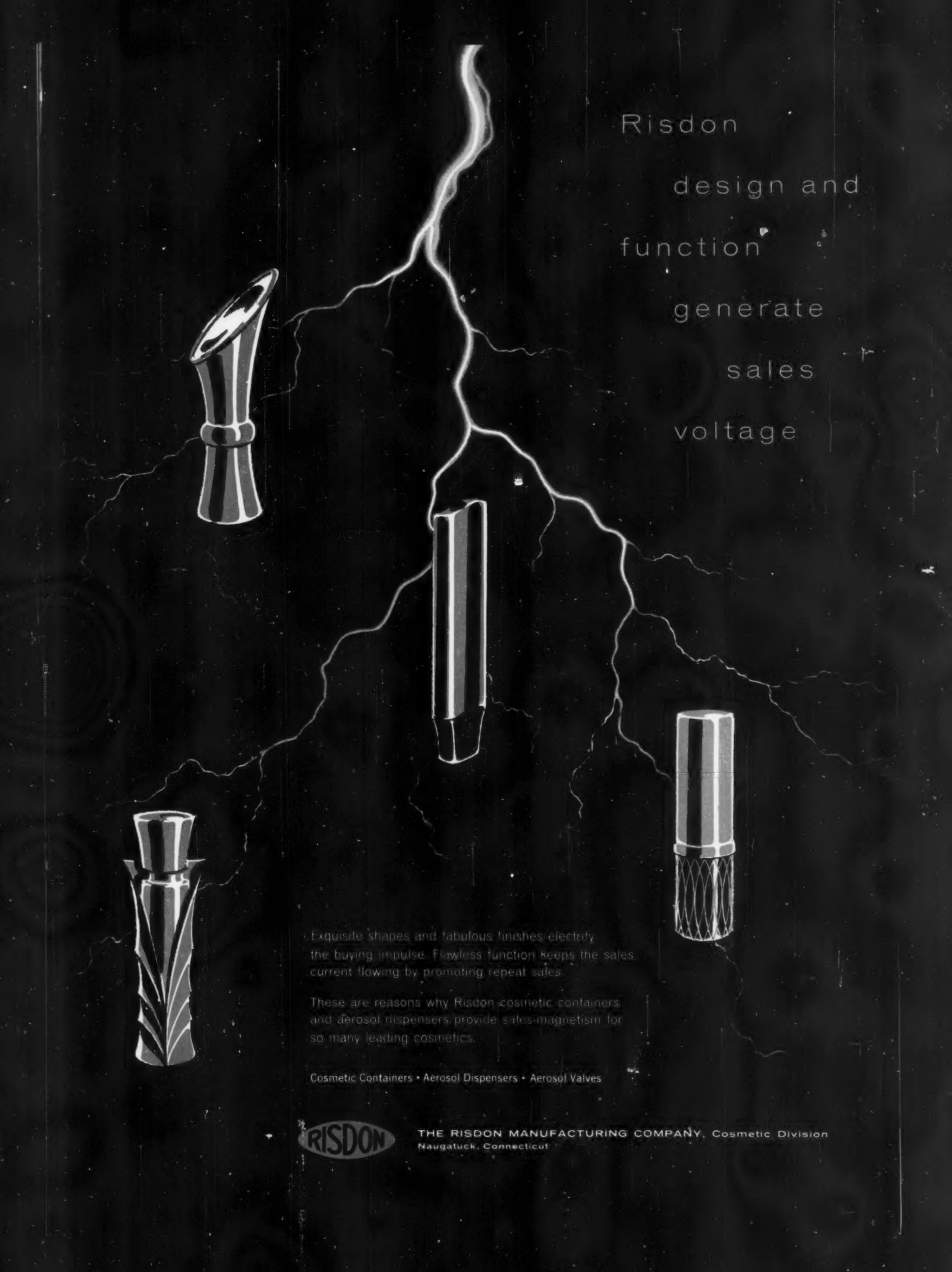
FORBES LITHOGRAPH CO.

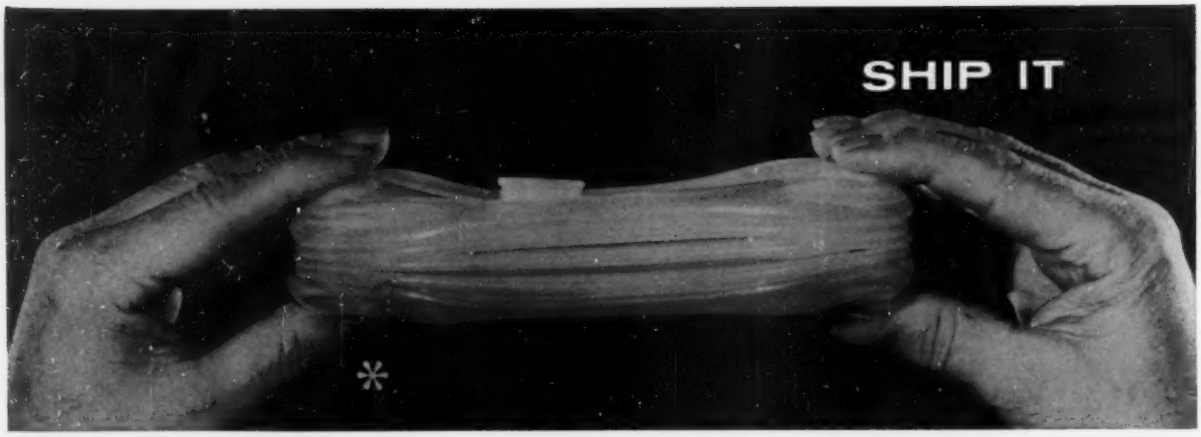
BOSTON, NEW YORK, PHILADELPHIA, CHICAGO, CLEVELAND

Put your Product in a HEEKIN CAN

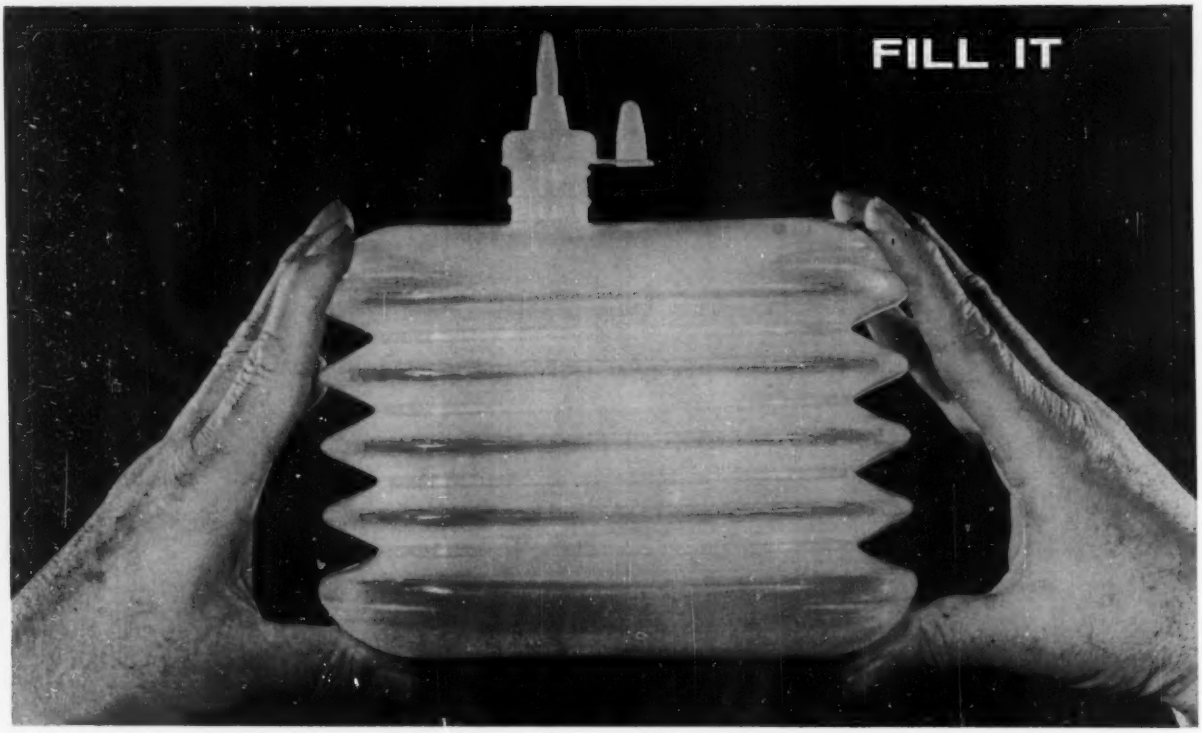
Heekin's research and engineering experience will help solve any metal packaging problem. Contact Heekin today and receive *Heekin's Personal Service*. See for yourself that Heekin Cans, both plain and lithographed, are carefully planned for your product and your profit.

THE HEEKIN CAN CO. *PLANTS IN OHIO, TENNESSEE & ARKANSAS—SALES OFFICES; CINCINNATI, OHIO; SPRINGDALE, ARKANSAS*


Risdon
design and
function
generate
sales
voltage
Exquisite shapes and fabulous finishes electrify the buying impulse. Flawless function keeps the sales current flowing by promoting repeat sales.
These are reasons why Risdon cosmetic containers and aerosol dispensers provide sales-magnetism for so many leading cosmetics.
Cosmetic Containers • Aerosol Dispensers • Aerosol Valves
RISDON
THE RISDON MANUFACTURING COMPANY, Cosmetic Division
Naugatuck, Connecticut



GET WITH Loma WHERE SUCCESS TAKES SHAPE



*This *collapsible* bottle, blow molded by Loma Industries, answers the question "Why ship air?" Made of conventional polyethylene it can be shipped flat and stored flat until ready for use. As a dispenser of liquids it has numerous applications.

CUSTOM AND STOCK PACKAGING blow molding, injection molding, expandable foam, vacuum forming, extrusion, combinations. DESIGN from your ideas or by our experienced design engineering staff. EQUIPMENT unexcelled in the U. S.

For more information about collapsible bottles, or for a creative solution to your packaging problems, call or write

LOMA INDUSTRIES

3000 West Pafford Street • Fort Worth 10, Texas • Phone: WAlnut 3-1901 • Cable: LOMAWARE • TWX: FT8162

the NEXT TIME YOU BUY *Corrugated Cartons*

"Hinge-Fold", a new concept of corrugated creasing and folding, produces cartons which set new standards of strength, accuracy and uniformity.

The development which makes these cartons available NOW is a unique creasing method which forms a double hinge. This double hinge has the effect of forming the corrugated board into a column which prevents compression of the inner liner and stretching of the outer liner when folded.

Cartons produced in this manner have increased top compression strength, and resist folding fractures . . . even when stored in dry places. Hinge-Fold eliminates the folding fractures which result from the abrasion and tearing action of knife-edge scoring wheels which have long plagued the industry.

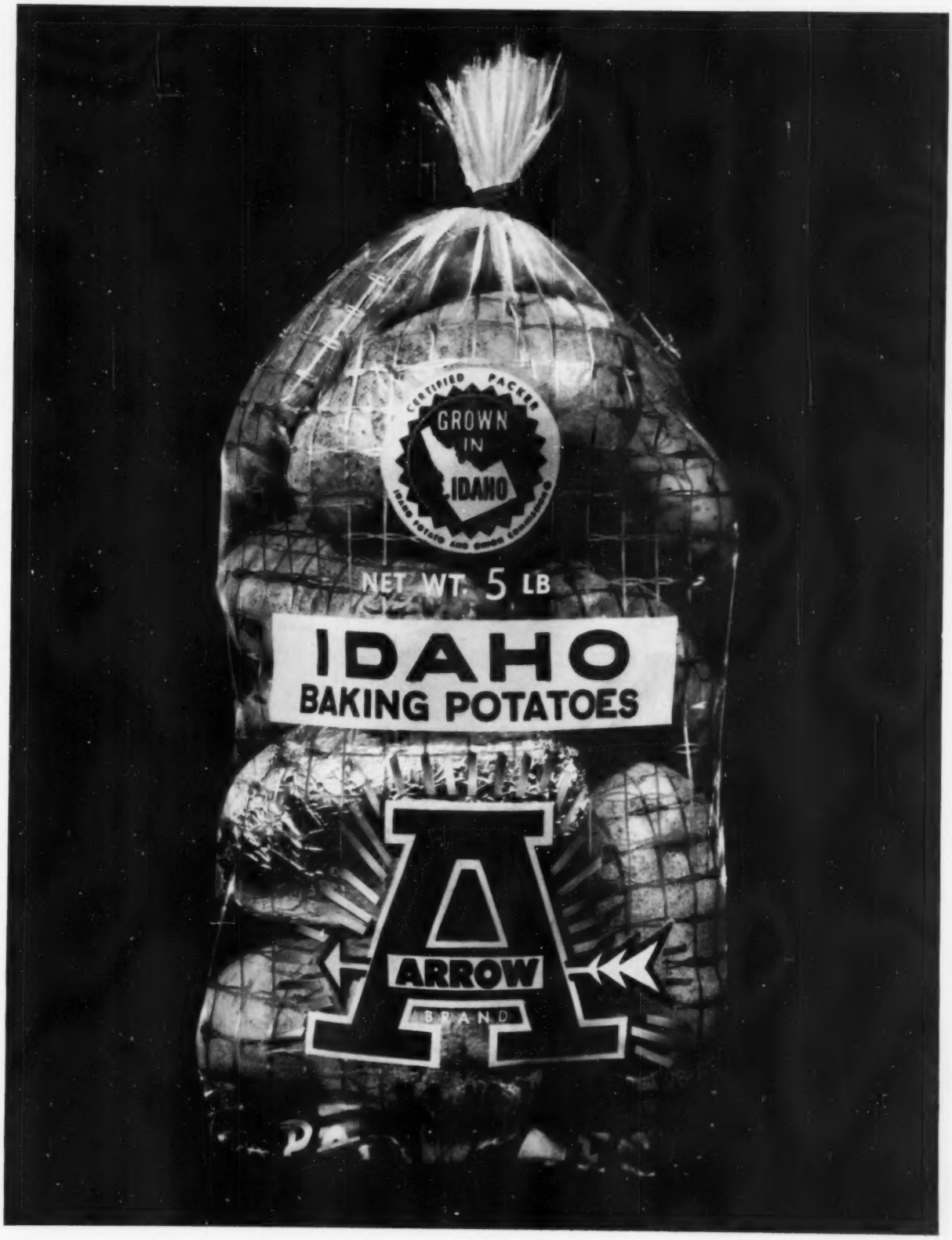
Proof of these statements is embodied in a report issued by Container Laboratories Inc. which is available to you upon request.

Write today —

for a list of box makers who can supply you Hinge-Fold Cartons

The **international**
PAPER BOX MACHINE COMPANY
IPBMCo
315 MAIN STREET, NASHUA, NEW HAMPSHIRE

are specifying <u>this</u> polyethylene . . .



XEROX CORPORATION finds the ideal answer in CLEVELAND CONTAINERS

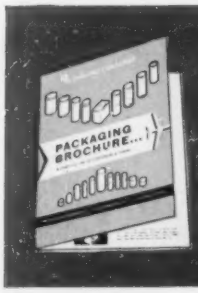
NEW CLOSURES FOR TWO OF THEIR FAMOUS PRODUCTS

For packaging Long Life Developer, Xerox selected a Cleveland Container with the *new easy-opening aluminum top*. The can stays sealed and tamperproof until the tabbed strip is peeled off. This strong fibre container, with tear top, protective liner and bright metal bottom, makes an ideal package.

This container with seal and recap top suggests a wide range of other applications, such as surgical dressings, powders, greases, spare parts and other products.

For their famous Toner, Xerox required a special plastic top which would easily and accurately dispense the contents. This tight fitting closure opens readily by prying upward with a pencil. Both fibre containers are labeled with the dramatic Xerox design, resulting in attractive, eye-catching packages.

Let our Engineering Department help you design the best container for your product. Each of our ten modern plants is fully equipped to serve you.



Write for our latest illustrated PACKAGING BROCHURE.

THE
CLEVELAND CONTAINER COMPANY

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ALL-FIBRE CANS · COMBINATION METAL AND PAPER CANS
SPIRALLY WOUND TUBES AND CORES FOR ALL PURPOSES

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Plants & Sales Offices: Toronto & Prescott, Ont. • Sales Office: Montreal

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Los Angeles
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Jamesburg, N. J.
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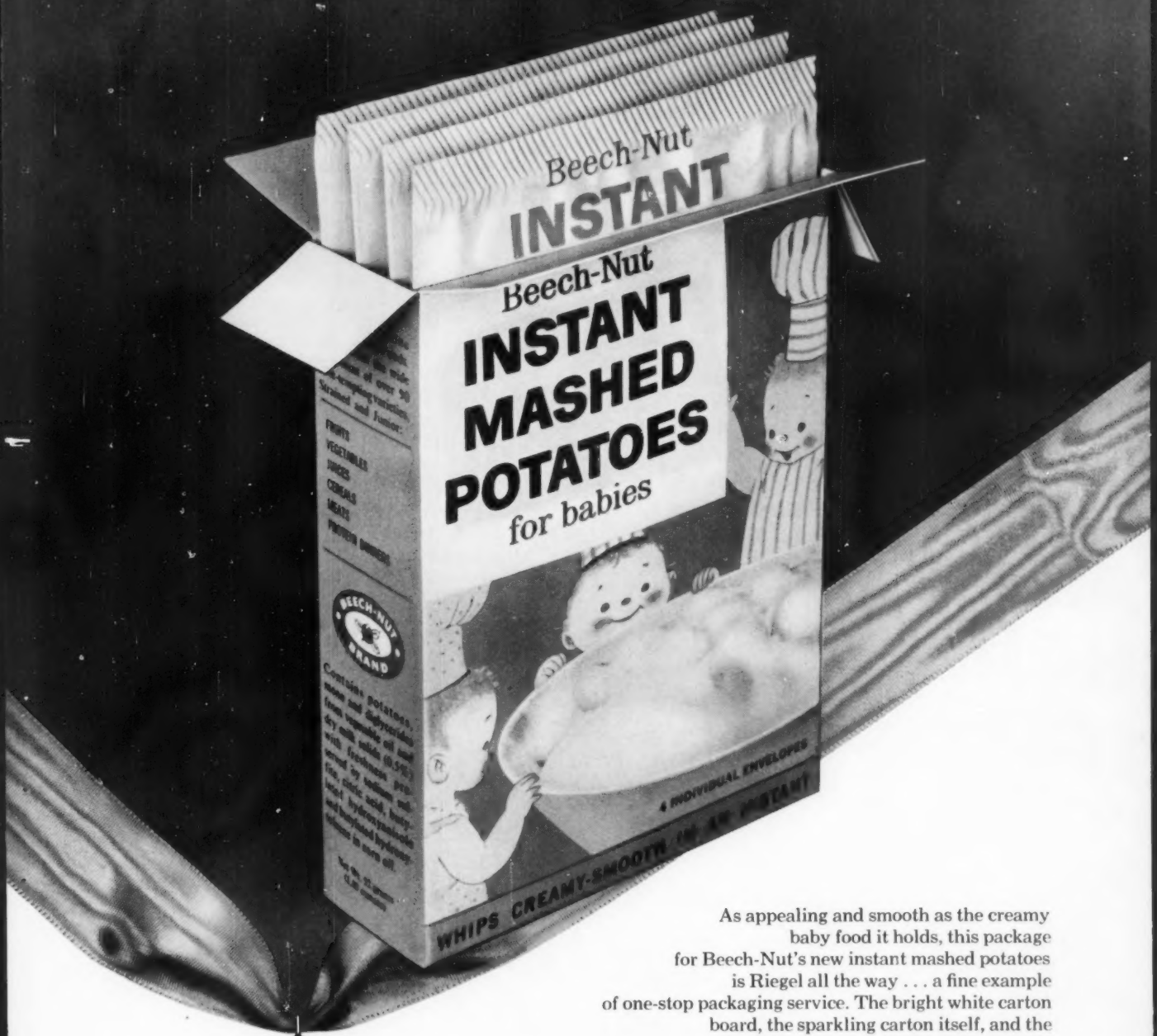
Sales Offices:
Detroit
New York City
West Hartford
Rochester, N. Y.
Washington, D.C.
•
Abrasive Division at Cleveland

Riegel

Creative Climate for Tomorrow's Packaging



...the new ideas come from **Riegel**

As appealing and smooth as the creamy baby food it holds, this package for Beech-Nut's new instant mashed potatoes is Riegel all the way . . . a fine example of one-stop packaging service. The bright white carton board, the sparkling carton itself, and the freshness-protecting pouch material . . . all contribute to the appeal of the new package . . . and all are by Riegel.

Whether you need this kind of complete service . . . or just one part of the packaging job . . . Riegel can help you. See the following pages for more facts on Riegel materials and services.

RIEGEL PAPER CORPORATION, 260 MADISON AVE., NEW YORK 16, N. Y.

Specialist in the packaging of foods, drugs, and soft goods

Flexible packaging . . . carton board . . . folding cartons . . . carton liners

Riegel Foldcote®: Extra bright . . . for Beech-Nut Instant Mashed Potatoes for Babies

The eye-appeal and sparkling color of Beech-Nut's new instant mashed potato carton are certainly due in part to Riegel "Foldcote" . . . the solid bleached carton board that is super-white, super-smooth and super-strong.

For noticeably stronger, brighter cartons . . . and extra eye-appeal . . . try Riegel's outstanding new full-bleached carton stock . . . "Foldcote." Super-white for color-brilliance, super-strong for rugged, rigid packages that keep that clean look.

Your future, too, can be brighter with "Foldcote." Ask for samples and information. Ask too, about other Riegel solid bleached boards. Export inquiries invited. Call Riegel today . . . for the new ideas come from Riegel.

Pulp and Paperboard Division
RIEGEL PAPER CORP., 260 Madison Ave., NYC 16
"Foldcote" machine-coated bleached boards
Albacel® and Astracel® pulps

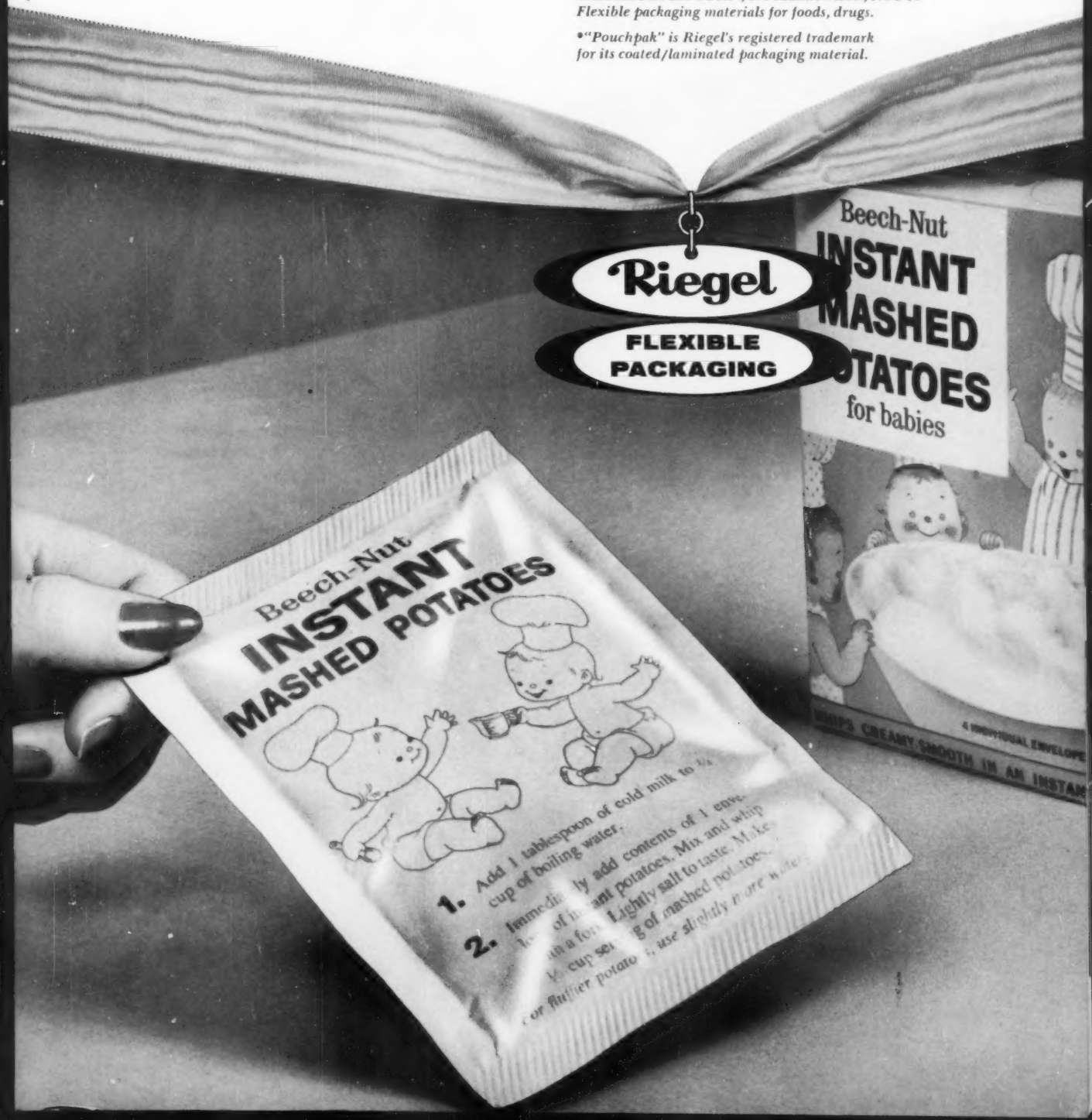
Riegel Pouchpak*: Special Protection for Beech-Nut Instant Mashed Potatoes for Babies

Keeping Beech-Nut Instant Mashed Potatoes wholesome and lump-free is the job of Riegel "Pouchpak" . . . formed into handy pre-measured pouches. Dumont, Inc. makes and fills the pouches for Beech-Nut.

Protecting the health-building goodness, flavor and consistency of important foods is a problem often met by Riegel. We've a flair for thinking of every product as something special . . . and developing for it the one best packaging material, be it pouch paper, glassine, foil, film . . . or combination . . . printed, coated, or plain. Write for more information today . . . for the new ideas come from Riegel.

Flexible Packaging Division
RIEGEL PAPER CORP., 260 Madison Ave., NYC 16
Flexible packaging materials for foods, drugs.

**"Pouchpak" is Riegel's registered trademark for its coated/laminated packaging material.*

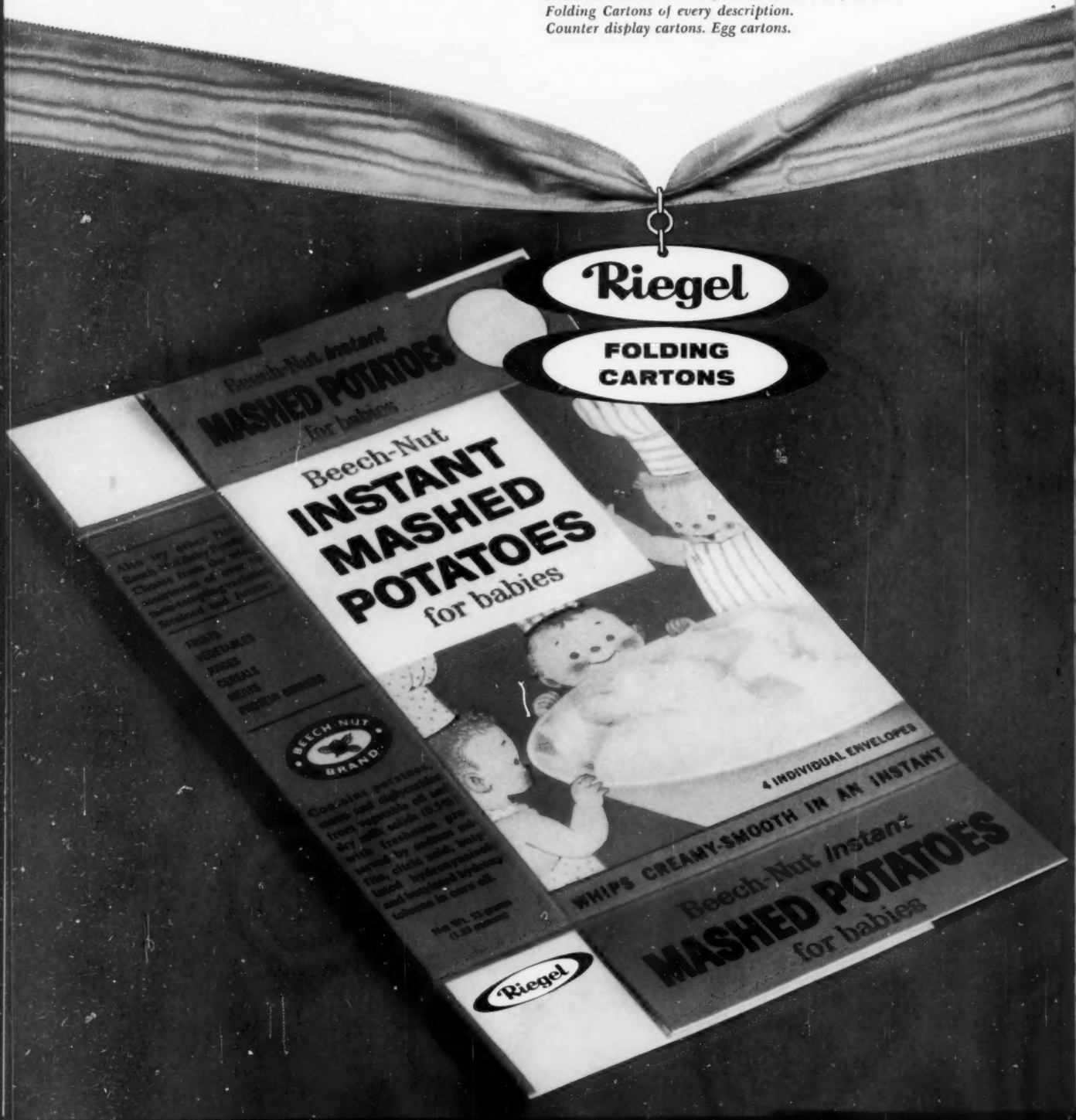


Riegel Cartons: The selling touch . . . for Beech-Nut Instant Mashed Potatoes for Babies

Beech-Nut's new instant mashed potato carton is gravure-printed by Riegel in 5 colors and over-varnished. The stock is 18 Pt. Riegel "Foldcote."

The carton has a big job to do when introducing a new product. It must catch the consumer's eye . . . have a look of quality and goodness . . . give quick, pleasing product identification. Yes, much depends on its quality. Riegel assures all volume carton users that their sales and production needs will be met. We offer a full range of printing processes, coatings and finishes from strategically located plants . . . plus award-winning design service. You'll find a talk beneficial . . . for the new ideas come from Riegel.

Folding Carton Division
RIEGEL PAPER CORP., 260 Madison Ave., NYC 16
Folding Cartons of every description.
Counter display cartons. Egg cartons.



Unique "benefit center" highlights G. C. Murphy shirt package...new by Lassiter

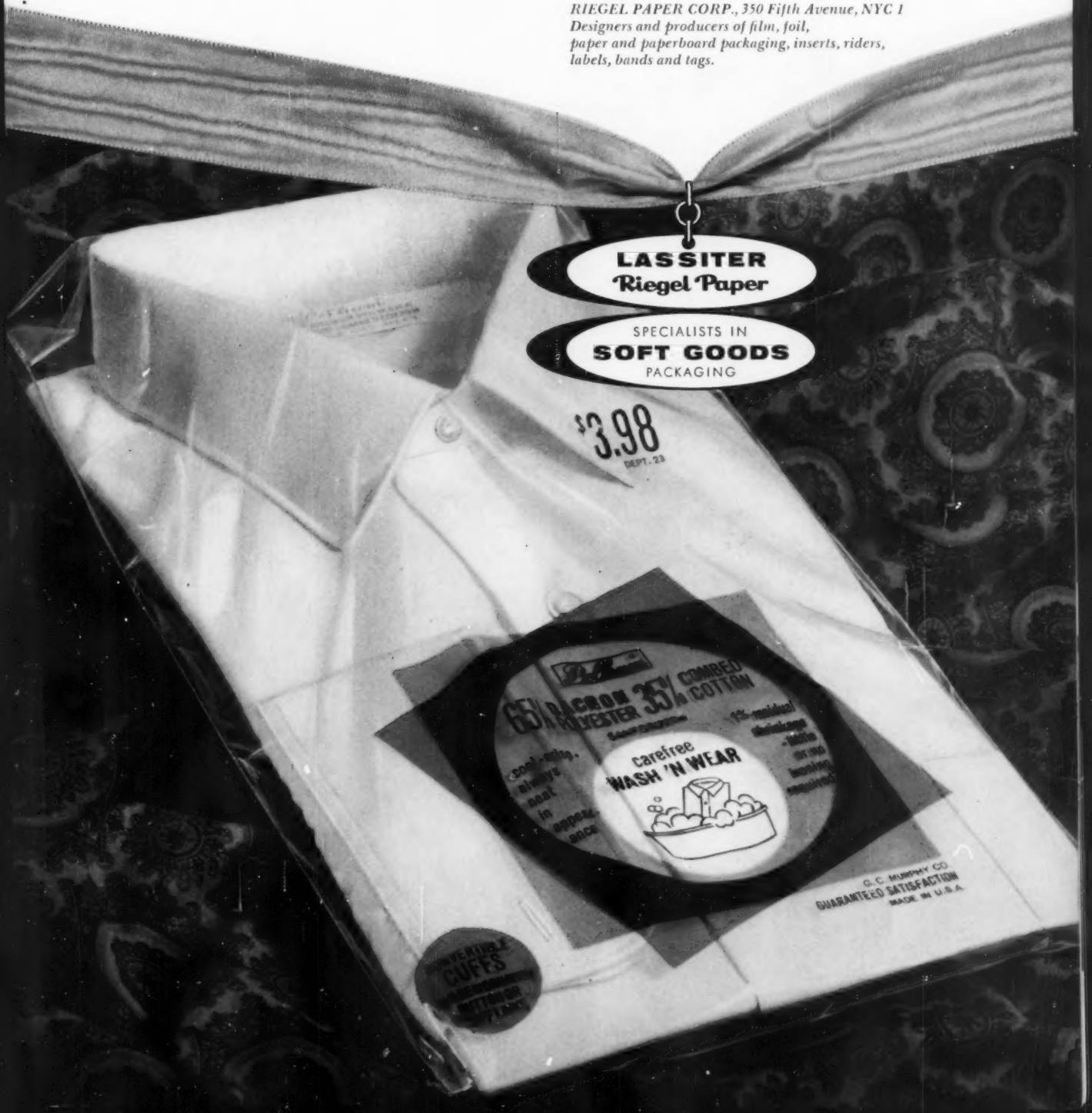
Right where they should be! Key advantages of G. C. Murphy Co. shirts are centered in a pattern of transparent inks on poly in this new Lassiter design. Advantages: better readability, more sales appeal.

Creating the "big effect" by developing strong family resemblance . . . using colors and art to distinguish styles . . . these are "basics" in Lassiter's way of doing things.

As the leading specialist in soft-goods packaging, we understand *both* sales and production problems. We know how to catch the shopper's eye . . . promote sales . . . and minimize *your* production costs.

This kind of *practical* packaging can surely help you. May we lay the world of design at *your* feet? Write today.

Lassiter Sales
RIEGEL PAPER CORP., 350 Fifth Avenue, NYC 1
Designers and producers of film, foil,
paper and paperboard packaging, inserts, riders,
labels, bands and tags.



Bartelt Packaging Machinery is on the job for Kellogg's

Crisp and delicious describe these fine Kellogg cereals . . . held at their very best by packages formed, filled and sealed with Bartelt Automatic Packaging Machinery.

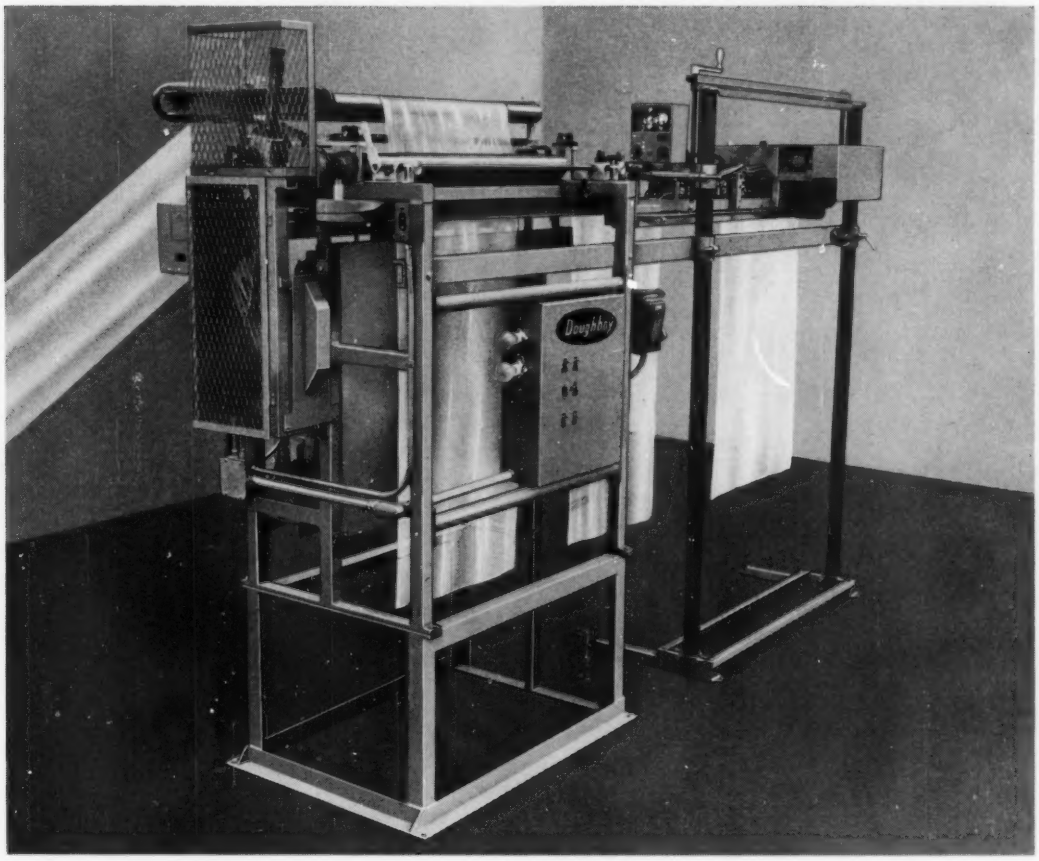
Bartelt packaging technicians are anxious to work with you in helping to develop packages to meet your specific requirements. As a leading manufacturer of custom-built packaging machinery for over a decade, Bartelt has worked with companies of every size producing a wide variety of products.

Those who want the very best in packaging . . . those who need *creative packaging* . . . recognize the Bartelt tradition of quality and dependability.

BARTELT ENGINEERING CO., INC.
Subsidiary of Riegel Paper Corporation
1900 Harrison Ave. • Rockford, Illinois
New York • Chicago • San Francisco

Doughboy **invites you to examine their**

BAG FABRICATING SYSTEM



The Doughboy Bag Fabricating System combines the tested and proven Doughboy Band Sealer with the Doughboy Bag Feeding unit—to manufacture case and drum liners and a general range of heavy duty industrial type bags. Every seal is positive and air-tight!

- Produces up to 40 bags a minute (single web).
- Handles two or more narrow webs for multiple production of smaller bags.
- Produces bags up to 40″ wide and 70″ long
- Bag lengths controlled to 1/8″ or less.
- Handles film gauges from 2 mil to 10 mil.
- All operations mechanically controlled, (no solenoids, no air valves).
- Optional equipment includes an electric eye for printed bags and also a bag top taping device.

The excellent performance and high efficiency of the Doughboy Bag Fabricating System offers superior production and economical operation.

MECHANICAL DIVISION
DOUGHBOY INDUSTRIES, INC.,
NEW RICHMOND, WISCONSIN

Gentlemen: Please send complete details on the Doughboy Bag Fabricating System.

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Address_____

City_____ State_____

Here's that cap again!

This time it's sealing a household name in vegetable oils. Yesterday, a nationally known pharmaceutical product. Tomorrow, one of the nation's largest distillers. Why the surge to this particular cap? Because it's setting new standards of filling line performance, thanks to the tightly rolled, kink-free bead . . . the deep, smooth thread. It's the result of two years of research and retooling. It's described in detail in the brochure "An event of major importance to you." Send for your free copy. Check this new cap's advantages for your product. Armstrong Cork Co., Dept. MC-1, Lancaster, Pennsylvania.

Armstrong PACKAGING

WATCH ARMSTRONG CIRCLE THEATRE EVERY OTHER WEDNESDAY EVENING ON CBS-TV

Background for Packaging

Notes, quotes and comments. An editorial feature

Startling implications in the Michigan State Liquor Commission ruling outlawing beer in disposable glass bottles in that state after Jan. 20. (*See p. 163, this issue.*) Ostensible reason: Litter in the highways and parks, damaged tires, cut feet, etc. Glass-container industry, now making a strong comeback against cans with the less-costly "glass can," is up in arms against the ruling, which does not affect metal cans. There is fear that the idea may spread to other states. So far, disposable-bottled soft drinks, not under control of the liquor commission, are not affected, but there is talk of a law to be proposed in the next Legislature. *Possible clews:* Michigan has a strong steel industry, is weak in glass containers (which center in neighboring Ohio) and the bulk of disposable-bottled beer isn't made in Michigan, but is shipped in from other states.

Price trends: *Paperboard*, with demand running strong, appears likely to hold and even extend recent price increases. *Glass-container* prices are weakening; many of the increases put through a few months ago are evaporating in the face of stiff competition. In *metal containers*, the situation is confused, but, says *Value Line Survey*, steel companies are unlikely to raise tinplate prices now, with growing competition from aluminum.

Sign of things to come? The Food & Drug Administration has proposed a regulation setting minimum size of type (probably 8 pt.) for warning copy on labels for drugs sent to physicians for patient use. Although this is not a sales package and the label is usually removed prior to dispensing, the move suggests the determination of F&DA to regulate legibility of required data (particularly the contents statement) on all food and drug packages.

Forthright packager viewpoint on the "deceptive-packaging" agitation (see p. 107, this issue) was expressed by James D. North, vice president, General Foods, at recent Grocery Mfrs. of America meeting. "Those of us concerned with packaging," said Mr. North, "should welcome [the Senate inquiry] since it offers us an opportunity to see ourselves as others see us. . . . My own observations of our discriminating modern homemakers convince me, more and more, that beautiful design for design's sake is not nearly so important as the useful information she wants and needs. To give it to our consumers, clearly and prominently stated in simple terms, is a marketing must."

Four rules for design were enumerated by Robert Sidney Dickens, president, Package Designers Council, at recent meeting: (1) Quit treating your packages as if they were ads in a trade journal; (2) quit copying the other guy; (3) if you are using a transparent packaging material to show your product, then show it; (4) don't become infatuated with some new packaging material and start running with it until you are thoroughly convinced that it is the best for your particular product and its problems.

Saleless supermarket is planned as the laboratory for a new million-dollar "academy of food marketing" to be established at St. Joseph's College, Philadelphia. A committee of 50 food executives is arranging for the store—which will never ring up a dollar in sales—to provide study of packaging and display methods. The academy itself will open in September, 1962, and will accommodate 900 students who are currently in training for executive positions in the food industry.

Change of thinking is apparent in U.S. attitude toward Europe's Common Market. It now appears that, if the President is empowered to reciprocate with across-the-board cuts in U.S. import [*Continued on page 40*]

Continued from page 39

duties, the Common Market (soon likely to include Great Britain) may reduce its external tariff wall to accommodate U.S. exports. Thus the U.S. may, in effect, participate in the Common Market. If this comes about, it will take the steam out of the present drive by American companies to establish branch packaging plants inside the Common Market. Says a Europe report by the Chase Manhattan Bank: "So long as Europe looks outward to expanding world trade, rather than inward to protection and self-sufficiency, markets for U.S. products should continue to expand."

Small company has a place in the foreign market. A study by Booz, Allen & Hamilton covering 690 U.S. companies shows that from July, 1960, to June, 1961, there were 1,195 instances of new establishments abroad, new licensing agreements, or expansions of existing foreign facilities. Significant point is that nearly 30% of the foreign business activities were by firms having sales volumes of less than $50 million. Western Europe accounted for more than half of the new foreign establishments.

Switch in frozen-foods display practice may affect packaging. *Rodger Mitchell* of Booth Fisheries told the Waxed Paper Institute it is probable that packages ultimately will be displayed upright, in freezer cabinets with doors or air curtains, rather than flat, as at present. This could mean, he pointed out, that frozen-food packages will gradually switch from present containers to shapes allowing more stability for upright stacking.

Aluminum's aim is to widen its share of market in seven areas of packaging—flexible materials, folding cartons, kegs and cases, cans, formed containers, caps and closures, and collapsible tubes—which together had an estimated sales value of $3.9 billion in 1961. As pointed out by Paul Murphy of Reynolds Metals, even a modest increase in aluminum's share in each of these markets could multiply the industry's packaging sales, which last year amounted to about $250 million. Chief target for aluminum: cans and other rigid packages.

Aluminum cans get a boost from the technical finding that no interior coating is necessary for aluminum cans containing most frozen fruit-juice concentrates. The research was conducted by Alcoa in conjunction with can makers. Aluminum cans already have a major share of the big 6-oz. orange-juice-concentrate market and elimination of interior coating should substantially improve their cost position.

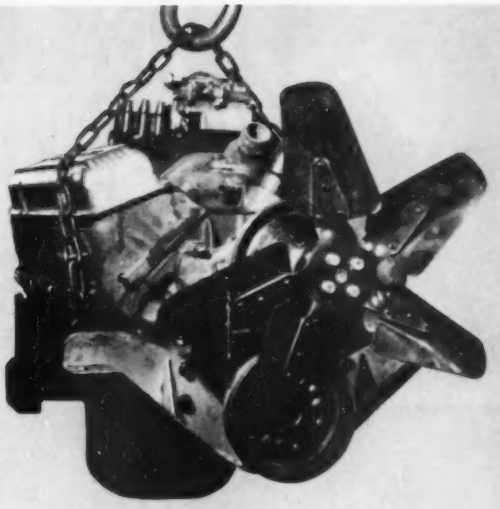
Heartening prospect for flexible-packaging converters, long plagued by a low profit ratio, comes in survey indicating sales increase this year over 1961 by about 10½%. Last year was only about 4% ahead of 1960 and an Ernst & Ernst report to the National Flexible Packaging Assn. indicates that while industry-average profits declined, nearly half of the 43 companies surveyed, doing 36% of the sales volume reported, achieved net profits of 6.3% or better before taxes.

Atmosphere of optimism was apparent at the recent annual meeting of the National Paperboard Assn. Members were told that new orders reached a record high in the third quarter of 1961 and that production also is gaining. Production of paperboard in the week of Nov. 11 reached 344,729 tons, which was 6% above the comparable period a year earlier. In the same week new orders increased 17.1% and unfilled orders climbed 27.4%.

Are canners missing the boat in the promotion of convenience? Said Robert C. Cosgrove, vice president of the National Canners Assn., to Georgia canners: "There's nothing more convenient than [*Continued on page 44*]

Whether your product is...

this little



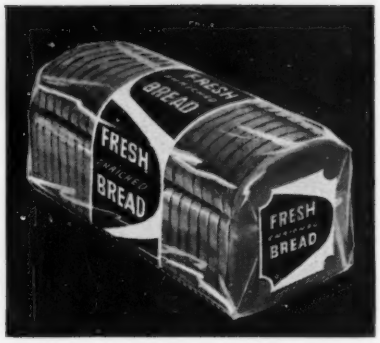
...this big

this fresh...

or this fragile

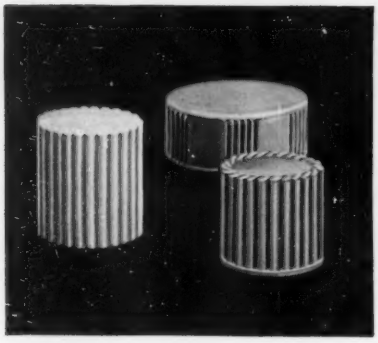
Look into AVISCO® packaging materials and services →

HOW MANY OF THESE AVISCO® PACKAGING MATERIALS CAN YOU USE?



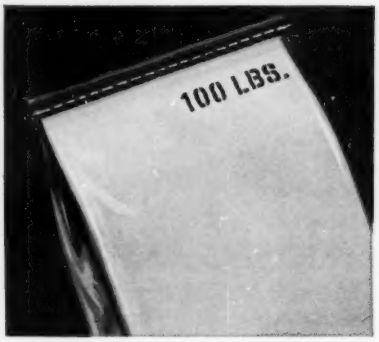
1 CELLOPHANE

Available in many different types, tailor-made for a wide variety of products including foods, tobacco and textiles.



5 PLASTIC MOLDING COMPOUNDS

Avisco urea formaldehyde molding compounds are used to make bottle and container closures, colorful caps and cases.

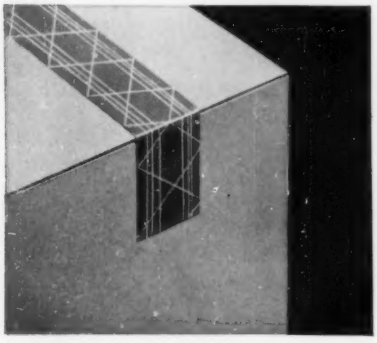


6 RAYON INDUSTRIAL SEWING THREAD

Yields up to 30% greater yardage per dollar; offers greater strength and trouble-free sewing on bag stitching machines.

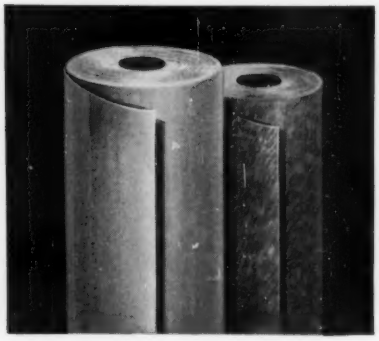
7 RAYON STAPLE

Clean, white Avisco rayon staple is placed in necks of pill bottles to prevent pill breakage. No static hazard. Virtually lint-free.



11 RAYON FOR REINFORCED TAPES

Rayflex® filament yarn adds strength and flexibility to packaging tapes at low cost — for a wide variety of uses.



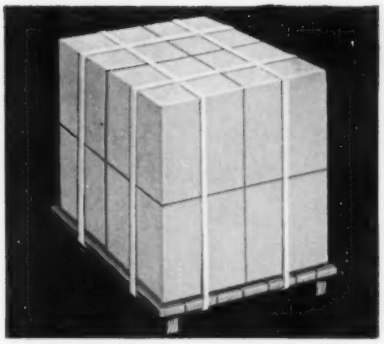
12 RAYON FOR SPECIALTY PAPERS

Avisco rayon can be used in the pulp blend to give added flexibility to heavy paper or paperboard — decorative effects to paper.

13 RAYON AND ACETATE FOR RIBBONS

Avisco rayon and acetate are widely used to manufacture many different kinds of ribbon for use in gift packaging.

AMERICAN VISCOSE CORPORATION, PACKAGING DEVELOPMENT SERVICE



2 AVISTRAP® CORD STRAPPING

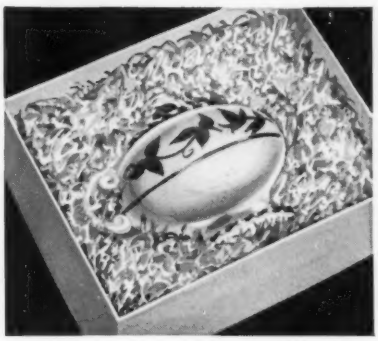
Outperforms metal strapping—at lower cost—in many applications. Safe and light in weight. Eliminates disposal problems.

3 CELLULOSE BANDS

Avisco cellulose bands provide a visible, tamperproof seal around the neck of a bottle or jar. Printed bands are available.

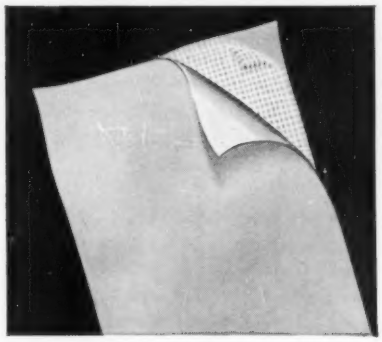
4 CASINGS

Avisco transparent and fibrous casings offer meat processors easier stuffing, uniform shapes and more full slices.



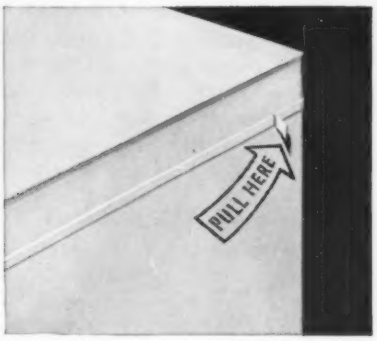
8 CELLO-CELSIOR® SHREDDED FILM

Shredded cellophane is used by many manufacturers to cushion delicate objects. It also adds decor to a gift-type package.



9 RAYON FOR REINFORCING

Rayflex® filament yarn is used to make scrim, which is laminated with paper, film or foil to give added protection.



10 RAYON FOR TEAR TAPES

Tear tapes made of Avisco rayon simplify the opening of cartons. No cutting required. No resulting damage to contents.

14 RAYON FLOCKING

A velvety texture can be simply and economically applied to boxes and containers by spraying with flock of Avisco rayon.

FOR MORE INFORMATION, ATTACH THIS COUPON TO YOUR COMPANY LETTERHEAD

American Viscose Corporation
Packaging Development Service, Dept. K.
1617 Pennsylvania Blvd., Phila. 3, Pa.

Tell us about your packaging requirement or problem, and check the numbers of the Avisco products in which you are interested. We'll be happy to tailor our suggestions to fit your specific needs. Be sure to include your name.

1____	2____	3____	4____	5____
6____	7____	8____	9____	10____
11____	12____	13____	14____	

AVISCO

1617 PENNSYLVANIA BOULEVARD, PHILADELPHIA 3, PENNSYLVANIA

Continued from page 40

canned foods. All you have to do is open, heat and serve. Yet the frozen competition has pretty well convinced the consumer that frozen foods are more convenient." Urging canners to develop an intensive publicity campaign on the convenience angle, Mr. Cosgrove pointed out that it takes about twice as long to prepare frozen peas as canned peas.

Note to Washington: This is what the Weights & Measures Associates, including weights-and-measures officials, have to say about the accuracy of package filling: "Contrary to general belief, the manufacturer, packager and seller have far more at stake in accurate weights than the buyer of the products. The purchaser may suffer a small loss, but if the maker, packager or seller has 'slow' or inaccurate scales, he may suffer a staggering number of 'small' losses, which quickly skyrocket into very large sums, often wiping out a company's entire profit margin."

Look for a breakthrough for the piston-type aerosol can, now that F&DA approval of Freon C-138 has re-awakened food-industry interest in the aerosol package. Pharmaceuticals also hold a big potential, ranging from spray bandages to surgical soap. According to some authorities, creams and ointments that cannot possibly be dispensed will become standard items with a pressurized piston package and 1962 should bring a new method of high-speed production loading of this type of container.

Aerosols face problems on the regulatory front. New York City is considering a ban on the use of flammable propellants in aerosols sold in the city. The Federal Hazardous Substances Labeling Act goes into effect Feb. 1, requiring specific warning statements about the explosion hazard on labels for all pressurized containers. And weights-and-measures officials in several states are concentrating on this type of package; reportedly, shipments of aerosols have been seized for short weight in Pennsylvania.

New concept of paper as a matrix for plastics and in many combinations for packaging was advanced by Norman S. Cassel of Interchemical Corp. in a recent talk. He pointed to the possibility of combinations of plastic coatings on paper and paperboard in multi-coatings as a replacement for multi-layered packaging now required for protective jobs. The development of new adhesives will advance the use of foil, films and paper in many new combinations, he said, and vacuum deposition of metals will provide metallic effects economically.

Can makers will check a new chromium plated strip developed in Japan as a replacement for tinplate. Fuji Iron & Steel Co., opening a U.S. sales campaign, says the metal is 10% less costly than tinplate and offers certain superiorities, including quicker and better adhesion of standard coating materials and absence of reaction with beer, milk and sulphur-containing foods. A continuous process coats steel strip with chromium 0.000004 of an inch thick. U.S. can makers doubt that the chromium plate will be as universally applicable as tin and they question the economics, but they are getting quantities for evaluation.

Business of notions hit new highs last year and is now estimated at retail sales of $600 million a year. In both department and variety stores the notions department delivers higher dollar sales per square foot than does any other department and merchants are keenly interested in packaging improvements. At the recent meeting of the National Notion Assn. these packaging needs were stressed: (1) better packaging to upgrade the product; (2) more transparent packaging so customers can see the product without opening; (3) better informative and descriptive labeling.

Waldorf knows Packaging

FOR THE HOMEMAKER

Waldorf packages protect for freshness and flavor. Example: Patented "Sorbolite" package material absorbs destructive light rays; protects freshness and sweet cream flavor of fine Land O'Lakes butter.

Snowy* Bleach keeps white things white and new looking. Waldorf packages protect Snowy* — easy to use, convenient to store.

*"SNOWY" is a trademark of Gold Seal Co.

New Twinkles breakfast cereal package with its fascinating storybook panels was printed by Waldorf, using high speed rotogravure presses to achieve highest quality reproductions.

Waldorf has originated countless packaging ideas that homemakers like. Take advantage of Waldorf's packaging experience ...it will help you sell more of your products. For total packaging service, write or phone Waldorf today!

WALDORF PAPER PRODUCTS COMPANY
ST. PAUL 14, MINNESOTA • Midway 6-7321

this easy-to-open bag seal?
...new development from 3M!

New 3M-Matic sealing system stops customer frustration. Provides "flag" tabbed tape closures that are easy to find, easy to open.

The bag is sealed securely with pressure-sensitive tape – yet can be opened quickly without damage to the customer's teeth, nails, or sense of humor. Or for that matter, to the bag. Notice the easy-to-grab tabs at the end of the tape. They are put there automatically by a remarkable new bag sealer developed by Minnesota Mining and Manufacturing Company.

Up to 80 polyethylene bags per minute can be sealed *and* coded with this new device. Varying weights up to 10 pounds can be sealed with complete safety to the merchandise and to the operator. The machine handles most "SCOTCH" BRAND tapes from ⅜" to ½".

Perhaps this unique new sealing system from 3M could add another selling advantage to certain of your products. A sample sealed bag at your desk may help stimulate thinking.

Other 3M-Matic ideas from 3M:

Ultra high-speed automatic applicators . . . air or electrically operated definite length dispensers . . . combination bundlers . . . box sealers. They are just a few of the ideas sparked by 3M's engineering specialists — ideas that have created the most complete line of tapes, dispensers and applicators for industry.

3M-Matic methods may hold the answer to your needs. Your challenge to match the **right** equipment with the **right** tape is all we need to be of service. Why not call your nearest "SCOTCH" Brand authorized distributor or sales representative.

Scotch® Brand tapes for industry

3M Industrial Tape Division
MINNESOTA MINING & MANUFACTURING CO.
. . . WHERE RESEARCH IS THE KEY TO TOMORROW

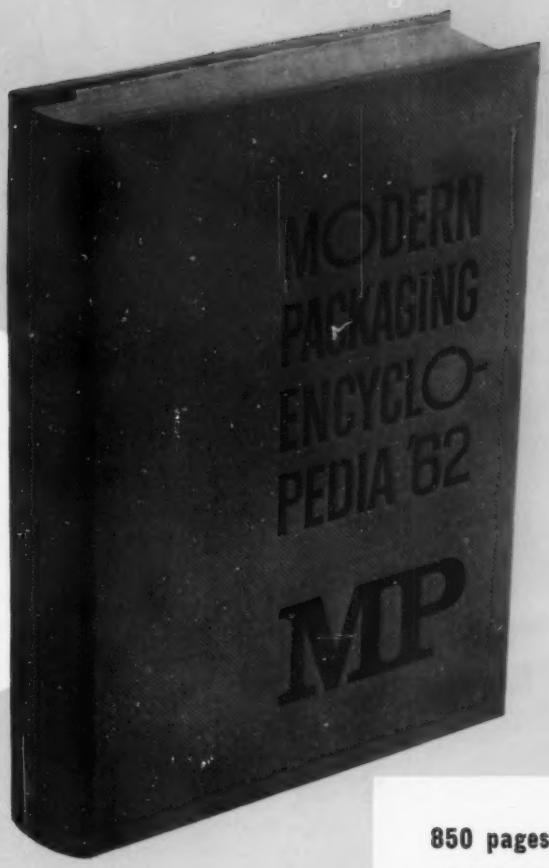
Your invitation to ingenuity!

3M Company
Dept. IBG-12
St. Paul 6, Minnesota

Please send complete information on your new automatic bag sealer to:

Name_____
Firm_____
Title_____
Address_____
City_____ Zone____ State_____

the only complete reference for the Packaging World



■ In the **Dark** on planning? methods? or materials? merchandising techniques? where to buy or sell? Get the answers fast with this treasury of up-to-date packaging information — MODERN PACKAGING'S ENCYCLOPEDIA ISSUE for 1962. Used by the packaging industry the world over as business advisor, cost consultant, production tool, technical informant and purchasing guide.

Valuable Editorial Features in This Encyclopedia Issue: A round-up of the latest trends and developments in packaging . . . a long-range planning chart . . . numerous special studies on cost trends . . . review of new materials and latest, most successful types of packages . . . line-up of profit-making ideas . . . calendar of major packaging events and competitions for 1962 — and much, much more!

Plus many new charts and tables covering such items as adhesives, taping equipment, cellophane, coatings for metal containers, wrapping equipment, etc.

. . . all adding up to more ready-to-use know-how on packaging ever assembled anywhere!

850 pages of helpful information on every phase of packaging!

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EQUIPMENT & MATERIALS

Easy-open fibre frozen-fruit can

American Can's Canco Div. is marketing an easy-to-open metal-end fibre can for frozen fruits and berries. The can body consists of a paperboard - polyethylene lamination, in contrast to conventional wax-coated fibre cans used for these products. The container features a pull tab for easy opening without utensils. The package, known as Top Notch, is available in 10- and 16-oz. sizes and is said to be extremely sturdy. The new container can utilize either aluminum or tinplate ends and no change in sealing or closing equipment is required, according to Canco. For further information contact *American Can Co., Canco Div., 100 Park Ave., New York 17.*

Ultrasonically welded foil

Alcoa has now equipped all its foil production facilities to make ultrasonically welded foil. It is using Sonoweld equipment (jointly developed by Alcoa and Aeroprojects, Inc., West Chester, Pa.) for splicing the ends of foil rolls with high-frequency sound waves. Foil spliced by this method permits high-speed operation of processing equipment and reduces waste, the supplier notes. The sonically welded foil is said to have essentially the same strength at the point of weld as it has in the balance of the foil sheet. Since the splice is only 3/32 in. thick, it generally does not need to be removed and reportedly will not interfere with rotogravure printing. *Aluminum Co. of America, Pittsburgh 19.*

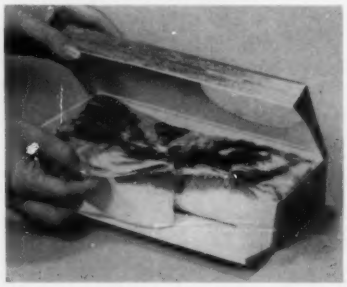
Versatile nested pint container

A new pint-size nested container with a rolled rim that permits the use of plastic closures or two-piece paperboard lids is now available from Mead Packaging. Suggested for a wide variety of products, the "Hercules" container is made from virgin bleached sulphate board and features rigid construction, plastic coating and high-gloss gravure printing. The supplier claims that the newly designed containers possess the optimum nest to minimize empty-container storage space. Trouble-free production on automatic filling lines is also claimed. *Mead Packaging, Div. The Mead Corp., Liquid-Tight Container Plant, Lawrence, Mass.*

Low-cost aerosol production line

Designed to cut operating costs in small and medium-sized aerosol-packaging plants is Aerosol Machinery Co.'s new aerosol production line. Reported to offer low initial cost and easy maintenance, the line is capable of handling pilot runs as well as intermediate and quantity production. It may be installed either as a straight line or space-saving U-shaped line, the company notes. Available in single- or double-chain models, the Amco line can reportedly be run at up to 90 cans per minute in continuous production. A single master control panel directs the entire operation in which the cans are fed, cleaned, filled, purged, crimped, gassed, check-weighed and coded. Change-over to handle liquid or gas propellants is accomplished with a single switch on the control panel. The unit incorporates a special multi-station adjustable cam timer that controls the sequence of each production operation and a hydraulic positive-indexing mechanism that drives the entire line. The equipment is custom designed to fit individual needs; additional units can be added to expand the line. *Aerosol Machinery Co., Westbury, Long Island, N. Y.*

Improved bacon carton



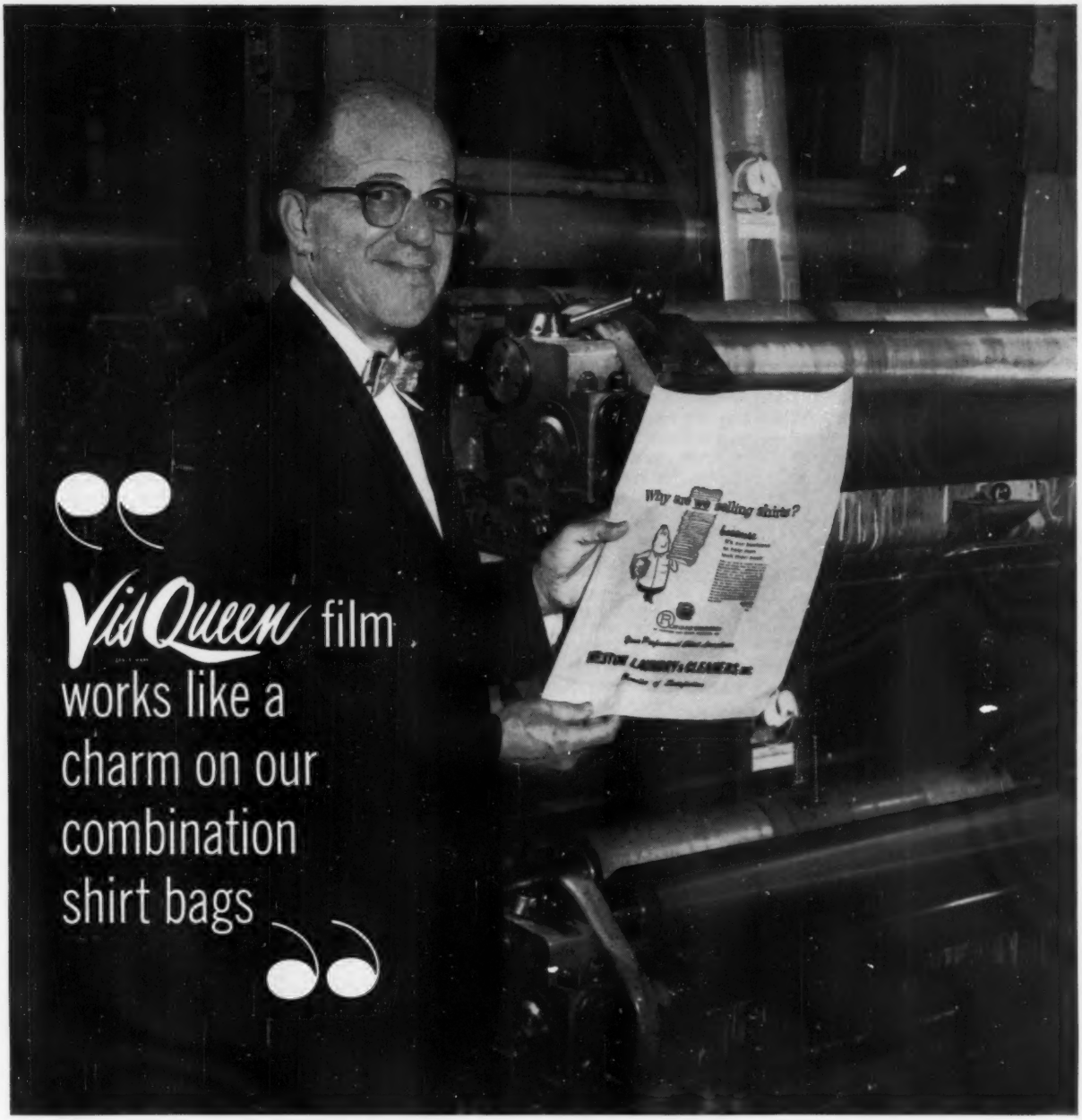
New convenience for the housewife is claimed by KVP Sutherland for its heat-sealed carton for 2-lb., "thick-slice" bacon packages. The new package features a tear-strip opening device, a fold-out front panel for easy removal of the bacon and a sturdy reclosable lid. Also cited are several advantages for the meat packer, including easier loading and faster set-up than is possible with unsealed cartons. A heat-sealing machine, which is said to seal up to 30 packages per minute, is available on a lease basis from the company. The sealed carton is reported to overcome the problem of locks which often become torn or distorted in home use on conventional bacon packages. The seal also renders the package tamperproof while in the retail store. *KVP Sutherland Paper Co., Kalamazoo, Mich.*

High-speed automatic blow-molding line

More than triple the industry's current plastic-bottle-production speeds is claimed by Continental Can for its new automated plastic-bottle blow-molding line. Although no price reduction is contemplated now, long-range economies accruing from the higher production are a definite possibility, says the company. Speeds of 125 bottles per minute, compared with conventional speeds of 35 to 40 per minute, are possible with the new line, which includes, along with the blow molder, a unit to trim the bottle necks, a finishing machine to ream the bottle and place a pouring lip on the neck edges and a flame-curing unit that treats the bottle surface to permit subsequent decorating—including label adhesion. It is fed by an extruder and reportedly can handle any polyolefin resin. The production line is said to be capable of producing bottles in a variety of shapes, in sizes ranging from 12 to 32 oz. A label-imprinter attachment that will four-color print and flame cure both sides of containers is expected to be operational shortly, the company notes. *Continental Can Co., 633 Third Ave., New York 17.*

High-slip polypropylene film

Great potential in the high-speed automatic packaging of food products, confections and soft goods is claimed by



"Well, Mr. Scheer,* that's good to hear. Could you tell us why?"

"*Primarily because VISQUEEN polyethylene film has such excellent machineability.*"

"In what way, Mr. Scheer?"

"*Well, when you're turning out volume production, you want a film that's strong—won't tear or break and cause work stoppages. Film gauge should be uniform, sealing the film to the paper backing should be trouble-free,and you should get what we call a high 'lay-flat' yield.*"

"And does VISQUEEN polyethylene film meet these requirements?"

"*It certainly does. VISQUEEN film speeds-up our entire operation. What's more, our customers like its high gloss and exceptional clarity.*"

"Thank you, Mr. Scheer."

*Mr. Lester Scheer is President of the ABC Cellophane Corp., Brooklyn, New York

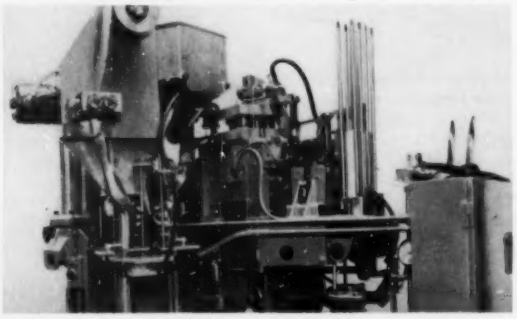
Plastic Films
VISKING COMPANY
Division of UNION CARBIDE *Corporation*
Dept. MPl, 6733 West 65th Street, Chicago 38, Illinois
***VISQUEEN film*—the original polyethylene film . . . finest for packaging.**

FOR COMPLETE INFORMATION ON THE WIDE RANGE OF "VISQUEEN" POLYETHYLENE FILMS AVAILABLE AND THEIR MANY APPLICATIONS, CONTACT YOUR CONVERTER OR WRITE DIRECTLY TO VISKING COMPANY.

AviSun for Olefane A-3 high-slip polypropylene film. The new non-clinging film can be run on most types of packaging machinery and tests are said to have indicated excellent performance on form-fill-seal, back-seam and side-weld-bag machines. AviSun suggests that the development will open the bag and bag-liner field to broad use of polypropylene. Density of the film is 0.89 and its yield is 31,000 sq. in. per pound. Additional data are available from the supplier, *AviSun Corp., 1345 Chestnut St., Philadelphia 7.*

Tear-open metal can tops

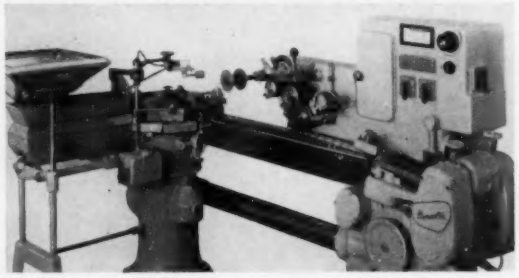
The hermetically sealed metal can that can be opened without a utensil has been the object of many years of industry research. Latest offering in this area comes from Can-Top Machinery Corp., which has developed two types of "self-opening" tinplate can tops—designed for application to metal, fibre or plastic containers—and an automatic machine for producing the lids at a reported speed of 400 per minute. Both styles of Pulltop lid have pull tabs for easy manual tear-off opening. One top (first photo) can be removed entirely and is designed for use by canners of a wide variety of solid, viscous and granular products—such as frozen concentrates, ground coffee and vegetables. The other (second photo) has a V-shaped pour opening much like that made by a punch-type can opener and is suggested for use by canners of beer, carbonated beverages, evaporated milk and other liquids. Both types of tear-open metal can top, which are said to cost 1/15 of a cent more per unit than conventional can lids, have aluminum-foil inner liners which are glue adhered to the bottom surface on machine and stripped away with the tinplate when the can is opened. The lids are crimped on can bodies in the standard manner. The compact machine which produces the lids is 50 in. high and 76 in. long costs between $20,000 and $25,000. Available for purchase or lease, it is basically a four-station, two-line-feed unit. At the first station, conventional can lids pass under a punch press that embosses opening directions ("Lift tab up," "Pull lid out") as well as a shoulder that gives strength to the pull tab. Next, the desired opening (circumferential or V-shaped, in addition to the outline of the pull tab) is die cut in a skip pattern that assures firm attachment of the pre-cut area to the lid rim until the moment of opening. After adhesive is applied, a disk of aluminum foil cut from a web on machine, is fed in for application to the glue surface. According to the supplier, the automatic machine can be integrated with standard body-making or canning equipment, offers fast and simple change-over and will process can ends of any size or shape.



In addition to the convenience and safety of the self-opening can top, the company reports it has conducted a thorough testing program that proves the pre-cut can lid will withstand pressures of up to 150 lbs. per sq. in. without buckling. And, says the supplier, shelf life of products in cans with Pulltop lids compares favorably with that of the same items in conventional cans. For further data, contact *Can-Top Machinery Corp., Bala-Cynwyd, Pa.*

Film saving tablet strip poucher

The amount of film required to strip package a compressed tablet can reportedly be cut by nearly one-third with the use of Hamac-Hansella's new Miniwrap tablet pouch packager. The supplier notes that, based on a cellophane cost of 62 cents per pound and a yield of 21,000 sq. in. per pound, $2.79 per 100,000 tablets can be saved. The tablet pouches feature easy opening—either utilizing a tear tape or by merely pushing the tablet through the seal. The unit's speed is said to range up to 500 wraps per minute. In operation, the film web is fed continuously from the reel by driven draw-off rollers and guided over a forming shoe which forms the web into a tube. At that moment the tablet is introduced into the tube automatically by means of a feeding chain. The tube is continuously seam sealed and finally the cross-seals are cut off by a pair of rotary sealing rollers. Depending on the shape and/or type of tablet, the automatic feed can be either vibratory or rotary disk feed. Photo-electric registration makes it possible to produce a registered printed pouch, the company notes. The tear-tape attachment is placed in the film-feed section so that a tear tape can be run together with the film at will, according to the supplier. Further details are available from *Hamac-Hansella Machinery Corp., Palisades Park, N. J.*



Foil printed by flexography

Reynolds Metals is now printing foil packaging materials by flexography as well as rotogravure. This new service allows customers more flexibility in design and copy changes at less added cost, the supplier notes. In many cases, says the company, the quality of flexographic printing on foil can now approximate that of gravure. The firm suggests flexography for such marketing uses as temporary "deal" offers and test markets of limited scope where flexibility is required. In runs of over 50 million square inches, which includes most packaging applications, rotogravure still costs less, the company advises. *Reynolds Metals Co., 6601 W. Broad St., Richmond 18, Va.*

New propionate formula

A new Tenite cellulose-acetate propionate formula, developed primarily for injection molding and said to combine

[*Continued on page 152*]

U.S.I. POLYETHYLENE NEWS

A series of advertisements for plastics and packaging executives by the makers of PETROTHENE® polyethylene resins

JANUARY, 1962 — U. S. Industrial Chemicals Co., Division of National Distillers and Chemical Corporation — 99 Park Ave., N. Y. 16, N. Y.

Packaging Notes

Polyethylene Pouring spout with open-close control features fast flow, no-drip with immediate cut-off. Of rugged, two-piece construction, it is available in 400 or 414 bottle trim for standard 28-mm. plastic or glass bottles.

CIRCLE ③ ON COUPON

Liquid reagents are now being distributed in "store-and-dispense" containers consisting of a 2- or 5-gallon polyethylene bottle in an ICC-approved cardboard carton. The manufacturer-distributor is currently offering 15 solutions — including formaldehydes, hydrochloric acids, sulfuric acids, buffer solutions; will package others compatible with polyethylene on request.

Photo courtesy Fisher Scientific Company

CIRCLE ② ON COUPON

Individually Quick Frozen citrus fruit sections packaged in resealable polyethylene bags are said to keep indefinitely, have excellent appearance and flavor. New fresh freezing technique preserves fresh fruit at peak of sweetness and flavor without rupturing cells —a problem with previous methods. The orange, grapefruit and tangerine segments reportedly defrost rapidly, can be eaten minutes after removing from freezer.

CIRCLE ④ ON COUPON

Boys' shirts packaged in mint-scented polyethylene bags have been introduced by a New York City manufacturer. The move should spur impulse sales, if the experience of a Texas hosiery company is any indication. The latter firm found packaging nylons in clear, perfumed polyethylene bags increased sales 10%; plans to use scented bags for its entire soft goods line, including handkerchiefs and men's socks.

CIRCLE ⑤ ON COUPON

Consumer Preference Spurs Use of Polyethylene Coated Milk Cartons

Brighter Appearance, Greater Scuff and Chip Resistance Are Chief Contributing Factors

Approximately 20 per cent of all milk cartons now being produced in the U. S. A. are polyethylene coated. And, according to J. K. Moffett, U.S.I.'s Assistant Manager of Polyethylene Sales: "At the present state of development, it is not unreasonable to expect an annual polyethylene demand of over 100 million pounds for coating milk cartons by 1965."

Wherever introduced, the polyethylene-coated carton—brighter in appearance and more scuff and chip resistant —has been heartily accepted by consumers. Consequently, dairies and container manufacturers are emphasizing it.

Cartons with polyethylene coatings are now widely available in sizes ranging from less than a half pint to a half gallon. They're being used to contain buttermilk, skimmed milk, chocolate drink, regular milk and orange juice.

Housewives go for leak-proof, flake-proof polyethylene-coated milk cartons.

U.S.I. Resin Wins Approval

Resin manufacturers and makers of automatic form, fill and seal machinery have kept pace with the rising demand, also. U.S.I., for example, developed a new polyethylene extrusion coating resin, PETROTHENE 205-15.

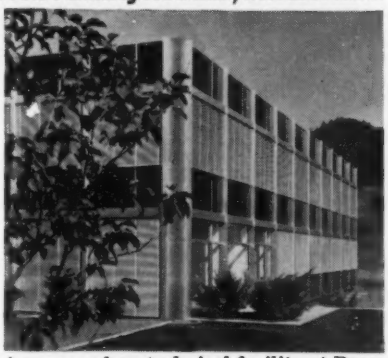
PETROTHENE 205-15 has already been accepted for use by a leader in the field of milk cartons. Approval followed extended field trials in which the resin "exhibited satisfactory performance on dairy machines and good resistance to the rigors of distribution and handling."

PETROTHENE 205-15 offers the best combination of properties. It provides excellent greaseproofness, low moisture vapor transmission rates, chemical resistance, and high oxygen impermeability. It complies with the Food and Drug Administration's regulation approving polyethylene as a food packaging material. Also, it passes MIL-B-121 B specification for military packaging.

What next? Polyethylene-coated cartons are expected to capture a larger share of the milk container market at an accelerated rate; then, move into other areas, including packaging of many types of liquid food and household products.

CIRCLE ① ON COUPON

U.S.I. International Operates New Facility At Baar, Switzerland



A new, modern technical facility at Baar, Switzerland, will help extend U.S.I.'s plastic and packaging technology in many parts of the world. Recently dedicated, the building contains a fully equipped research and technical service laboratory, as well as offices.

This new facility is available to U.S.I.'s European customers in the plastics, chemicals and packaging industries. It is equipped for polymer processing demonstrations, training of customer personnel, and evaluations of polymer materials.

WANT MORE INFORMATION

. . . on items mentioned in Polyethylene News? Just circle key no. of developments in which you're interested and mail to U.S.I. Polyethylene News, U.S. Industrial Chemicals Co., 99 Park Avenue, New York 16, N. Y.

1 2 3 4 5

NAME _____

FIRM _____

ADDRESS _____

CITY _____ ZONE _____

STATE _____

1-62-MPK

POLYETHYLENE DIESEL FILTER PACKAGE PROTECTS BETTER, LOOKS BETTER, COSTS LESS

At Seymour Filter Company, individual polyethylene packages for each filter provide materials savings over old multiple-unit carton.

In switching from cardboard cartons to printed polyethylene bags for its diesel engine filters, Seymour Filter Company, Division of Cummins Engine Company, has realized the objectives it sought: superior product protection and packaging economy.

At its Seymour, Ind., plant the company recently started packaging filters in clear, tough polyethylene film made from U.S. Industrial Chemical Co.'s PETROTHENE® 112 resin. Using film in slit roll form, the company forms bags around the product on M·A packaging system equipment. This system is less expensive than using ready-made bags.

The new package gives the filter complete protection from dust, dirt and moisture – conditions common to storage areas in the field where the filters are kept for use in heavy trucks and road building equipment. Although filters are packaged individually, the new product is less expensive than the old multi-unit carton due to considerable savings in materials cost.

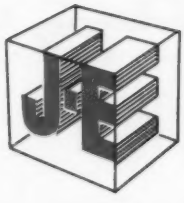
Product identity and attractiveness are considerably enhanced. Product description and company trademark – standing out in brighter, sharper color printing on film – catch the customer's eye. And the transparent polyethylene lets him see what he's buying.

Can your product package be improved and your packaging costs cut with automated polyethylene packaging?

As a producer of PETROTHENE polyethylene resins, U.S.I. has a trained staff of film and packaging engineers. They will be glad to work with you and your film supplier to see what advantages polyethylene has for you . . . help you find the best packaging system. Just write or call.

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers and Chemical Corp.
99 Park Ave., New York 16, N. Y.
Branches in principal cities

J·E — your first source for plastic packaging



Almost everything looks better — sells faster — in a sparkling plastic container. And J-E, the nation's largest designer-producer of semi-rigid plastic packaging, has **two** distinctive families of plastic containers, each backed by the know-how and the productive capacity which are your guarantee of prompt delivery of a quality product.

Choose any one of many shapes and sizes in pressure-formed FDA-approved styrene containers for fresh and frozen foods, available with snap-in, snap-on or snap-over lids, precision fitted to eliminate adhesives or tapes. Also available with heat seals.

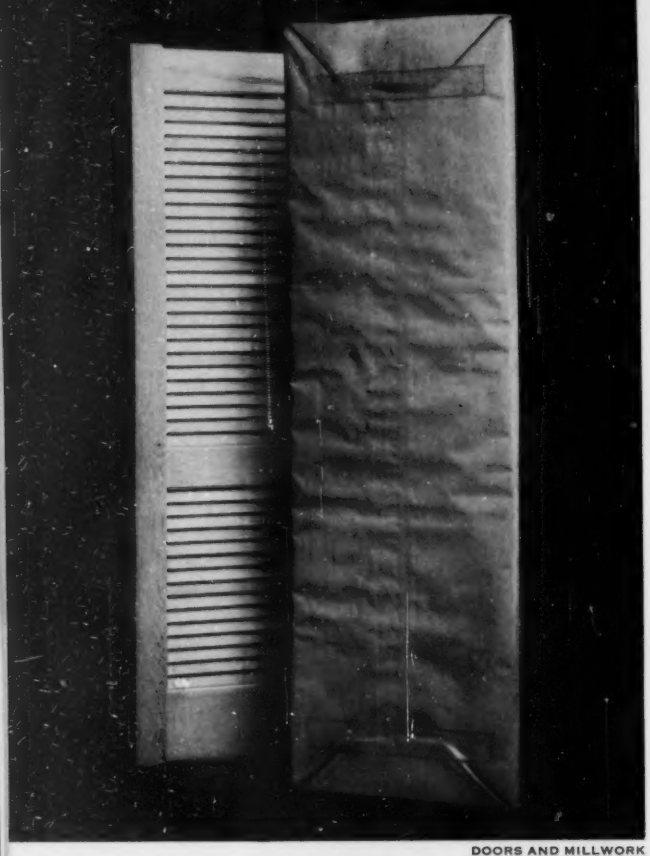
Or choose a fabricated acetate container — the ideal showcase for soft goods, cosmetics, confectionery and paper products.

Best of all — why not write us? We will be glad to send specific technical data as it relates to your product. Or send us your product — our Design Center will return it in its own J-E design-engineered container.

J-E PLASTICS MANUFACTURING CORP. **400 Nepperhan Avenue, Yonkers, New York**

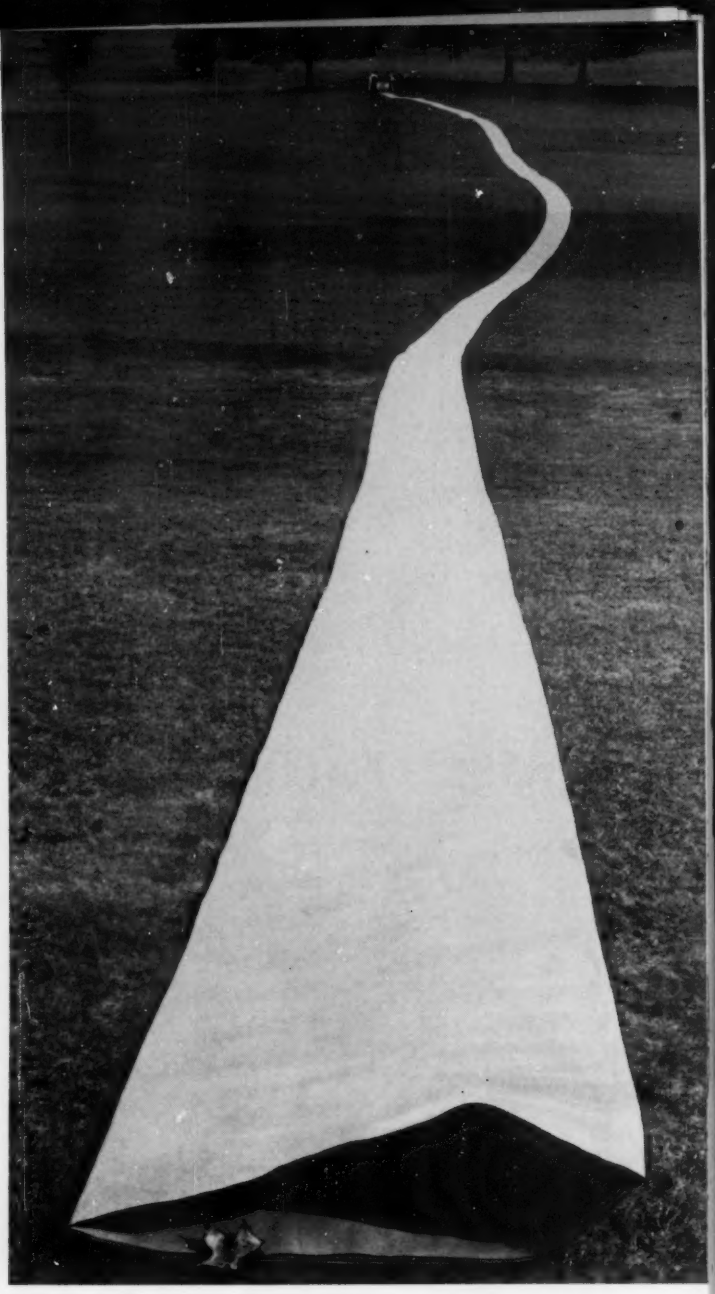
Phone: GR 6-3456

MP 11-61



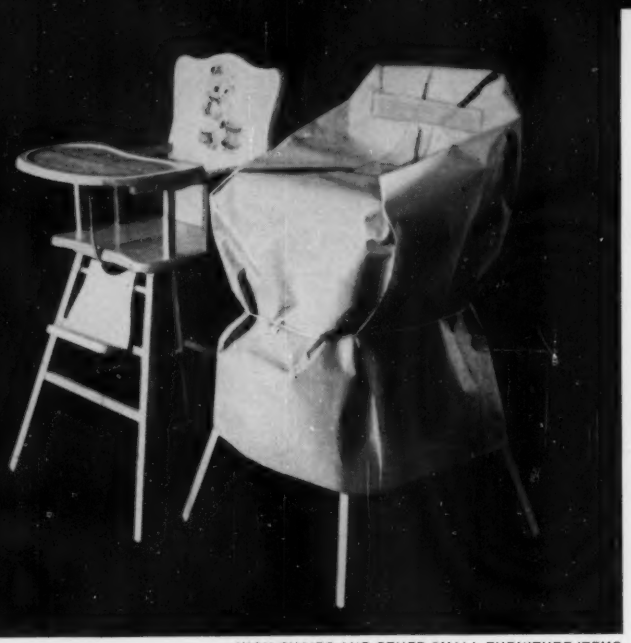
DOORS AND MILLWORK

CARPETING AND FABRICS



Mile-Long Bag:

International Paper announces the 5000 foot continuous tube—can package anything from doors to wastebaskets



HIGH CHAIRS AND OTHER SMALL FURNITURE ITEMS

PLYWOOD AND DECORATIVE PANELING

CUSHIONS AND MATTRESSES

WASTEBASKETS AND OTHER SMALL ITEMS IN BULK

AT LAST there is a simple and economical way to package products with unusual shapes—International Paper's Continuous Tubing.

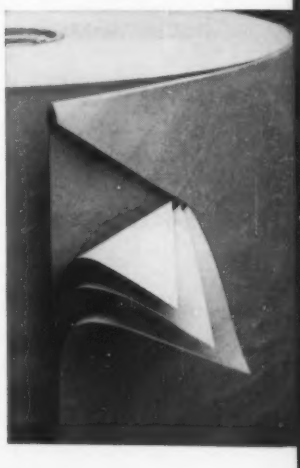
We call it the "Mile-Long Bag." It is formed like a multiwall bag, but is not cut into specific lengths or closed at the ends. Instead, it is wound on cores in lengths up to 5,000 feet.

The "Mile-Long Bag" is made with 1 to 4 plies of tough Gator-Hide® multiwall kraft paper in a range of tube widths from 25 to 53 inches. This means you get not only the strength and cushioning of multiwall construction, but complete flexibility that allows you to package products up to 106 inches in circumference.

Here's all you do. Simply cut off the length you need and slip it over your product. Then tape it, tie it, or glue it shut. Or leave the ends open, if your product requires only a wrapper.

You can see how the "Mile-Long Bag" offers big time and labor savings over conventional hand-wrapping methods. It's the quickest and most economical way to package a product of extraordinary length or odd shape that doesn't require the protection of a shipping container.

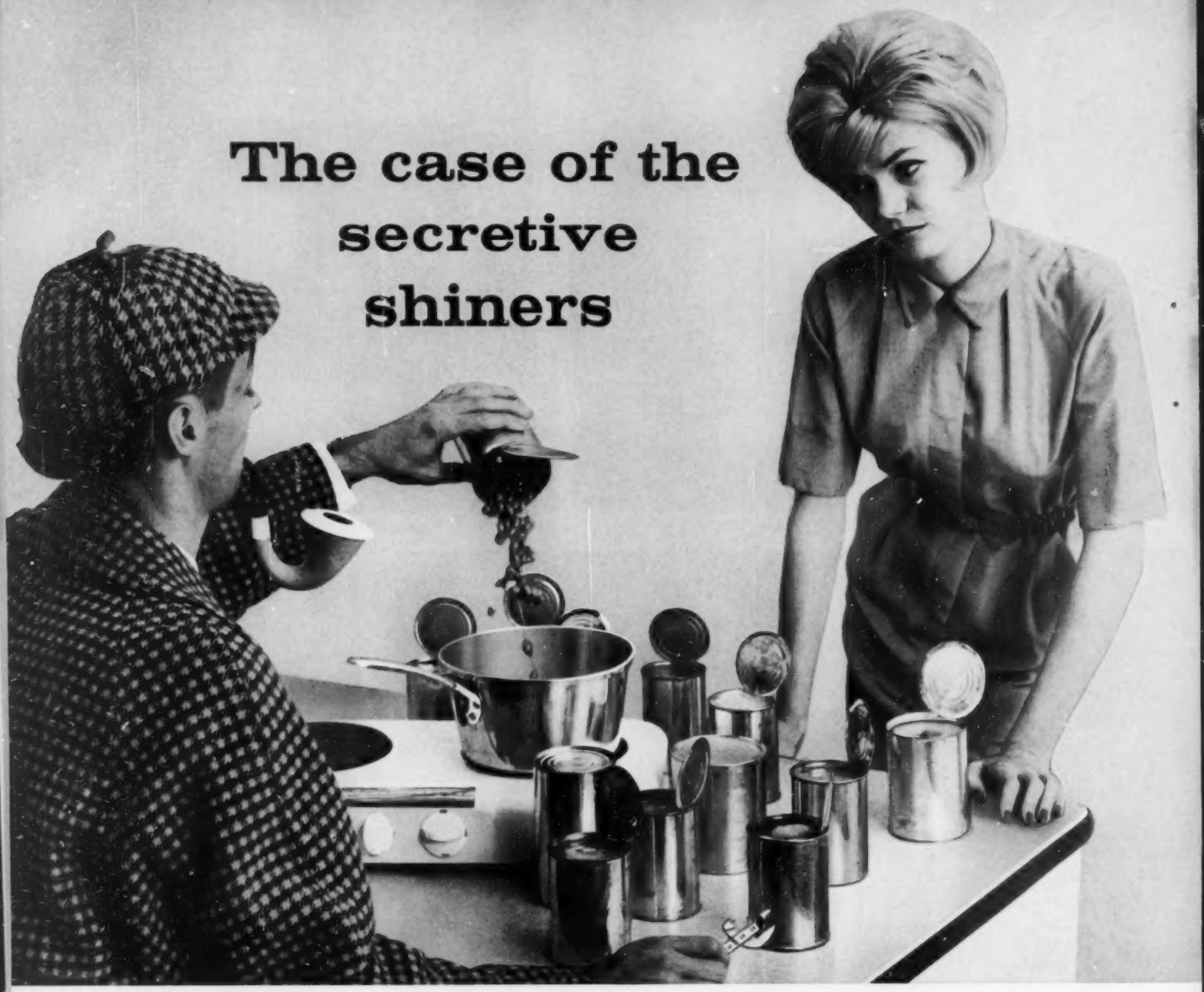
Perhaps the "Mile-Long Bag" is the answer to your packaging problem. Call your Bagpak® packaging engineer or write: International Paper, 220 East 42nd Street, New York 17, New York.



Perfectly nested multi-ply construction gives the "Mile-Long Bag" exceptional strength. ➔

INTERNATIONAL PAPER

The case of the secretive shiners



MISS WATSON: *Fearless, you look like you're preparing a vegetarian's banquet!*

FEARLESS FULLER: I'm eating in today—and I'm hunting for a can of beans.

MISS WATSON: *But how can you tell what's inside BARE cans?*

FEARLESS FULLER: They're called "shiners," Miss Watson. A disgusted canner gave them to me. I have to guess what's inside.

MISS WATSON: *How come they didn't get labels?*

FEARLESS FULLER: The old-style pick-up glue wouldn't grab the label edge because the cans were too wet.

MISS WATSON: *But I bet you specified a Fuller glue to solve the problem, Fearless!*

FEARLESS FULLER: Of course, Miss Watson. Remember, Fuller has eight different grades of Nu-Type Hot Pick-Up glues. There's a right grade for the temperature and moisture conditions of *every* canning line. Fuller's Hot Pick-Up gives good mileage—is non-staining—and dries transparent! Now my customer's cans are grabbing labels like kids snatching free hot dogs!

MISS WATSON: *Oh Fearless—you're so . . . so . . . sure of yourself!*

FEARLESS FULLER: No, Miss Watson. We Fuller men are sure of Fuller *adhesives* . . . there's one for every sticky problem!

Got an adhesive problem? Call your nearby H. B. Fuller plant—and ask for "Fearless" Fuller.

H. B. Fuller Co.

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PROFILES IN PACKAGING

The chairman of the board of Package Machinery Co. explains his rise to the top with typical New England modesty and brevity. "Everyone over me died," he says.

But Boston-born Roger L. Putnam was destined for leadership. He started as a salesman 40 years ago and in six years was president of his company—now one of the largest in the packaging-machinery field. He was a founder of the Packaging Machinery Mfrs. Institute, three-times mayor of Springfield, Mass., a naval officer in two World Wars and served as Administrator of the U.S. Economic Stabilization Agency.

In between, Mr. Putnam has been a director of numerous companies, active in educational and community organizations and an amateur astronomer.

Under his tutelage, Package Machinery has enjoyed an eight-fold increase in sales and has branched out from candy-wrapping machines to the entire field.

The imagination possessed by this restless executive at 68 came out at a recent PI Forum. He topped a blue-sky machinery panel with the outline of a dramatic new method for packaging continuously extruded bread in a tube of molten plastic.

At an early meeting of PMMI (he was a director and vice president), Mr. Putnam broke barriers of trade secrecy by throwing open his own plant for tours —thereby establishing a tradition for sharing technical information that was later the cornerstone of success for the Packaging Institute, outgrowth of PMMI.

As a change from pressing business activities, Mr. Putnam relaxes by doing needlepoint and, until recently, shared a two-handled saw with his wife, Caroline, for ou door exercise, happily cutting down trees on a 100-acre tract of woodland near his home.

Roger L. Putnam, *Package Machinery Co.*

E. H. Balkema, *Colgate-Palmolive Co.*

The nickname "Balky" is logically derived from the name, but salesmen who have run into his stubborn insistence on perfection agree that it also characterizes E. H. (Elmer Henry) Balkema.

His title is Director of Purchasing for the Household Products Div. of the Colgate-Palmolive Co. and he sits in a corner office on the 10th floor of the company's sleekly modern headquarters building on Park Ave., New York. But "Balky" is a packaging man—first, last and always. And in his 20 years with Colgate-Palmolive, his dedication to high standards of packaging has made itself felt throughout the far-flung operations of this company in 44 countries.

His zeal and his plain-spoken counsel have helped to guide the Packaging Institute, where he has always been a leader, twice a vice president and three times a director. Procedures developed by Mr. Balkema have widely influenced quality standards for printing, color control and uniformity in paperboard manufacture. He has been a principal proponent of scientific instrumentation for color control. As chairman of the Packaging Institute's Printed Packaging Materials Committee, he brought into general use the Sutherland Rub Tester and established four official PI procedures for testing of printed paperboard. He developed a device for measuring precisely the interior dimensions of a corrugated carton; it is now in general use. Last October he was presented with the 1961 Professional Award of the Packaging Institute.

Born in Indiana and graduated as an engineer from Purdue, "Balky" lives with his wife, Mona, on an island at Lake Mohawk, in Sparta, N.J., and drives 100 miles each day to and from his New York office.

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MANUFACTURING COMPANY

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COMPLETES PRESSURE-SENSITIVE LABELS in one pass!

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Ayerst Bottle Created by Browns Bottle & Supplies, Inc., Montreal

need a Royal idea... big or little?

Whether you're packaging by the gallon or the dram—or in between—Royal Plastic Containers can give you a better, stronger, lighter, and more attractive package. Whether made to your specifications, designed to your product needs, or stock molded Royal can do it with economy.

Royal brings you the reassuring experience of a basic plastics producer . . . the know-how of a pioneer in blow molded containers . . . skilled assistance in container design and mold production. Royal containers, made by Celanese, are packaging many of America's famous brands. Discover what a Royal container can do for your product. Write: Celanese Plastics Company, Royal Container Division, Dept. 208-A 744 Broad St., Newark 2, New Jersey. Celanese®

Celanese Plastics Company is a Division of Celanese Corporation of America.

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MATERIALS FOR Celanese MODERN PACKAGING

POLYETHYLENE FILM . . . ACETATE FILM AND SHEETING . . . PLASTIC CONTAINERS

Product and package both made of MARLEX. SPORTYAK† boat packed in TR-101 blown-tubing bag (pigmented red) made by Canton Containers, Inc., Canton, Ohio.

King-size bag of MARLEX* TR-101 film reduces packaging, handling, and shipping costs for popular new SPORTYAK

Dayton Bait and Marine Products Company of Dayton, Ohio, is marketing the remarkable seven-foot SPORTYAK (completely made of MARLEX high density plastic) in an equally remarkable plastic shipping bag eight feet long and 40 inches in diameter. Made of film blown from MARLEX TR-101 tailored resin, this giant bag is only seven mils thick . . . yet provides shipping and handling protection comparable to the heavier, bulkier cardboard cartons previously used.

Mr. J. M. Buening, Executive Vice President at Dayton Bait and Marine, says, "These TR-101 bags save us money . . . are better for our purposes than cardboard boxes. Packing is faster and requires less effort. Packaged boats are lighter and easier to handle . . . cost less to ship. Of course, with these boats, our main concern is protection from abrasion, marking, scarring, and the like. Thin as they are, MARLEX bags do the job . . . giving us factory-to-customer protection for the SPORTYAK. This film made of MARLEX TR-101 is amazingly tough."

In addition to outstanding toughness, bags made from MARLEX TR-101 high density resin can withstand extremes of temperature (from hot storage at 140°F to cold storage below zero F)... resist moisture, rot, bacteria, fungi, acids, alkalies and most chemicals. It also has been proven that thinner-walled TR-101 bags outperform thicker-walled low density polyethylene bags . . . having up to 38% more tensile strength and 2½ times the impact strength.

For marketers and packagers currently using paper, jute or low density polyethylene bags, cardboard boxes, metal or fiber drums . . . new TR-101 film can mean more efficient, less costly packaging. It offers dependable product protection . . . attractive packaging with colored or translucent film . . . and reduced freight costs. TR-101 film is also easy to seal with automatic or hand sealing equipment now available.

*MARLEX is a trademark for Phillips family of olefin polymers. †SPORTYAK is a trademark of Woodall Industries, Inc.

For more information, see your package supplier... or contact us.

PHILLIPS CHEMICAL COMPANY
Bartlesville, Oklahoma
A subsidiary of Phillips Petroleum Company

PHILLIPS 66 MARLEX PLASTICS

WORLD REPORT

*Digest of foreign packaging developments**

ENGLAND

U.S. food packaging as a British writer sees it

The U.S. Dept. of Agriculture staged a food exhibition recently at the U.S. Trade Center in London. It may come as a shock to some of the 114 American food concerns who exhibited more than 3,000 varieties of food products there to hear what the British magazine, *Packaging*, has to say about American packaging.

"In the first place," reads the article in part, "it should be said that there were very few evidences of any new or original techniques of packaging, most of the package types being conventional enough and remarkable only for their styling. Only those products introduced in the last few years are styled in modern fashion; most of the packages shown might have been designed in the 1880s onwards.

"This is perhaps the most striking feature of the exhibition," the article continues. "In the very country which extols market research, color research, motivational research and all the other 'scientific' methods of evaluating package appeal, practically all the packs for food are definitely old-fashioned, not to say dreary in appearance. Maybe this conforms with some deep-seated emotional reactions of the American consumer, who seems to like connotations of 'old-fashioned,' especially in relation to alcoholic beverages . . .

"Compared to the bright freshness of a Swedish or Norwegian supermarket, the effect is one of dreariness. The sophistication of the products is in nowise matched by the comparable sophistication in their presentation.

"There are, of course, some honorable exceptions," the writer concedes, "but the quality of the printing and the general execution of the package is well below British standards . . . Properly only the new kinds of convenience foods are styled in anything approaching modernity; even German food products seem to be advanced in their styling in comparison . . . The more highly processed the food, the more necessary it seems to present it as being 'just like Mom made it' or just as the log-cabin dwellers cooked it."

Many packaged products by Kraft, Borden, General Foods, Campbell's Soup, American canned fruits and others were singled out as very acceptable to British housewives. "Technically," the article states, "it seemed all the packs were adequate, not only for the home market, but also for export, though aesthetically many of the American packages fell below current European standards."

GERMANY

Level control by beta radiation

The techniques of beta radiation for level control of small containers, such as ampoules, collapsible tubes, glass tubes for tablets, vials and cartons, have been outlined by Dr. Ing. Habil A. Trost of Laboratorium Prof. dr. Berthold, Wildbad, Germany. In the chemical industry in Germany, gamma radiation has been accepted for many years as a means of level control because it works independently of the product's properties, such as viscosity, conductivity and color, also of pressure or temperature, he says. Unfortunately, the system is not suitable for small containers because of the low absorption rate due to the relatively short distance. But, says Dr. Trost, when it concerns packages or containers which have thin walls, it is possible to use a similar system, but applying beta rays. Unlike gamma rays, beta rays have a definite operational radius and the penetration depth for the strontium 90 mostly used amounts approximately to 0.7 gm./cm. Consequently the superficial weight is not allowed to be more than 0.25 gm./cm^2, no matter whether it concerns fibreboard, plastics, glass or metal, so that the rays can penetrate the empty container with sufficient intensity. Since in this case it is always a question of small containers and the checking consequently concerns large quantities, the equipment must be able to work at a high speed. Generally, the measuring time available will be less than 0.1 sec. and the device must be able to register a large number of impulses per second. Halog n-counting valves with thin-walled windows are practicable, because they do not wear quickly even with a large number of impulses. Beta radiation and light source are together in one case, and halogen-counting valve and electronic parts in another case, both fitted on a track so that the gap between the two can be adjusted according to the dimensions of the containers which are intended to pass between them. With a gap of 75 mm., a container having a wall thickness of 1 mm. and a beam of 5 mm. ∅, a checking period of 1/50 sec. is ample. Supposing the measuring width of the container under consideration is 30 mm. and the interspace between the containers is 150 mm., the device has an output of 600 containers per minute.

SWEDEN

Detergents marketed in PVA film packets

A Swedish firm, AB Henkel-Helios, is marketing detergents in large packets of soluble polyvinyl alcohol film similar to those used in the U.S. and reportedly has sold in two months more than 2.5 million of the packets despite a price slightly higher than that of detergents in conventional packages. The PVA film is imported from the U.S. and the packets are made, filled and sealed on machines of German manufacture, modified for the job by Henkel-Helios.

ITALY

Fresh produce exported in corrugated

The trend to replace wooden cases with corrugated fibreboard containers for the shipment of fresh produce is reported to be gaining ground rapidly in European countries. In Italy until a few years ago, the export of fresh produce in board containers was allowed only after authorization on the strength of a laboratory report. In 1958 rules and specifications were issued by ICE (Institute per il Commercio Estero) for the manufacture of suitable corrugated containers for the export of apples and pears. But export of other fresh produce in fibreboard still requires individual testing before a permit can be obtained. At present, 65 to 70% of the lemons are exported in corrugated. Such fruits as peaches are being considered, but require better-quality board offering better moisture protection.

***For additional information, write: World Report Editor, MODERN PACKAGING, 770 Lexington Ave., New York 21.**

Good Show!

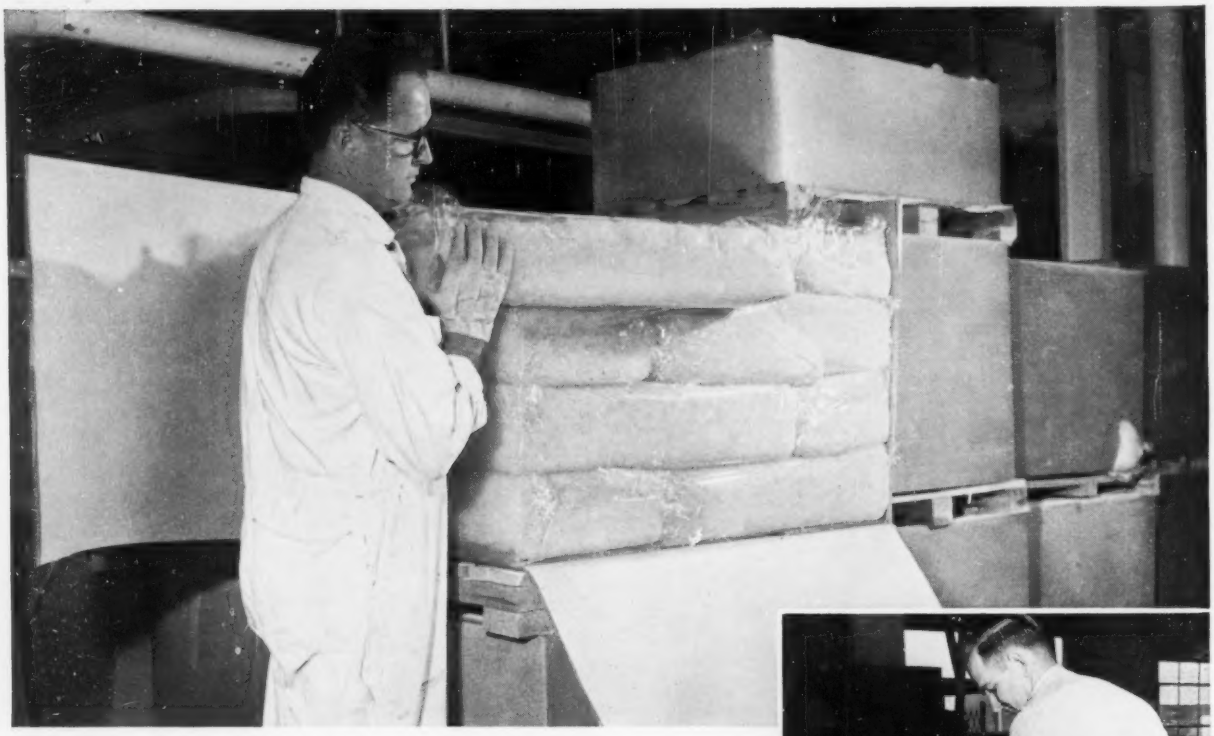
Striking Ekco-Alcoa aluminum packages have a high performance I.Q. They carry products unscathed throughout the production, distribution, and customer-use stages of marketing. Food can be frozen, heated, and served in one attractive container. Hermetically-sealed, Ekco-Alcoa containers keep moisture-sensitive products such as pharmaceuticals or ball bearings with complete safety . . . . . These versatile performers nest compactly, take up little space in a plant or warehouse. Their precise uniformity makes them ideal for high-speed production lines, and they weigh next to nothing, assuring low shipping costs. They can be covered with a wide range of materials—foil, paperboard, heat-shrink film, you name it. The closure equipment, itself, is available from Ekco-Alcoa on either a sale or rental basis . . . . . *Encore:* surprisingly low unit cost is made possible by modern mass production methods. Your nearby Ekco-Alcoa distributor will be happy to furnish details. Or write direct. **EKCO-ALCOA CONTAINERS INC.**

GENERAL OFFICES: WHEELING, ILLINOIS

The Plus Container

SILICONE NEWS from Dow Corning

Silicones lighten the load



Prevent sticking, cut costs with Syl-off paper coatings

Syl-off® silicone coatings on paper and paperboard make it easier to unpack sticky products . . . simplify and speed handling. Even such tough stickers as raw rubber, asphalt, adhesives and plastic bases come away cleanly and quickly from all types of containers and process papers coated with Syl-off. Nonmigrating and noncontaminating, these anti-adhesive silicone coatings help processors remove all of the product . . . cutting waste to the bone . . . minimizing unloading time.

More Applications. Pressure-sensitive decals, labels, decorative trims and wallpapers peel free in a flash without tearing from Syl-off coated separators or backing papers. Use of food grade Syl-off coatings on food packaging papers is in compliance with provisions of the Food Additives Amendment of 1958.

Benefits All. Everyone who buys, ships or uses sticky products profits from Syl-off coated papers. Even your shipping costs are lower because Syl-off coatings actually weigh *less* than other release coatings.

For Information about properties and applications of Syl-off . . . and for a list of sources for paper products with Syl-off coatings, contact the Dow Corning office nearest you. Address Dept. 8001.

Your best source for information about silicone paper coatings, defoamers and anti-blocking agents is the Dow Corning office nearest you.

first in silicones

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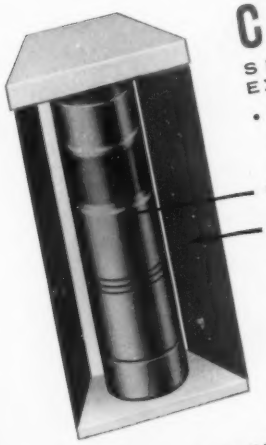
NEW COLOR BREAKTHROUGH!

EXCLUSIVELY TULOX

TWO-COLOR

SEAMLESS EXTRUSIONS



- A completely new, highly effective and most economical package.
- Crystal clear front for eye appeal.
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- Available in many TULOX shapes, sizes and color combinations. Require no inserts for color. May be decorated or printed.
- Matching or contrasting color closures.

Write at once for full information. Be one of the first to use this unique new package.

TULOX GIVES YOU THE BROADEST SELECTION OF SHAPES, SIZES, AND CLOSURES IN THE FIELD

EXTRUDED PLASTICS, INC.

General Offices • Norwalk, Connecticut

Plants: Norwalk Connecticut, • Marion, Indiana

How foil/paper laminating adhesive acts as a "relating agent"

POLYMER REPORT

Photomicrograph of POLYBOND PF-14® bond reveals intimate, continuous adhesion.

POLYBOND PF-14, a casein-latex emulsion, is applied to the foil as an extremely thin, wet film about 0.2 mil thick. The adhesive wets the foil surface completely. At the same time, acid radicals in the POLYBOND attack the oxide coating on the foil, slightly etching its surface to provide good mechanical anchorage.

When the wet foil is brought into contact with the kraft at the nip of the combining rolls, the POLYBOND PF-14 immediately drops off its fluid components which penetrate into and around the kraft fibres. (The photomicrograph illustrates the depth of this penetration . . . and the almost invisibly thin glue line which results.)

This penetration "sizes" and eventually strengthens the surface of the paper to prevent a weak, superficial bond. The penetration into the paper occurs quickly . . . so that paper and foil are immediately locked in position, preventing creep which causes wrinkles and other machine difficulties.

The very small amount of water introduced into the paper dries quickly, returning the paper to its normal moisture content.

"Adhesion Engineering"

This bond is the result of advanced adhesion engineering which changes each surface so that both materials become physically and chemically "related" . . . in contrast to systems wherein the adhesive bonds merely by forming a mortar or putty between the surfaces.

POLYBOND PF-14 is used for high speed laminating of foil to groundwood, paperboard, kraft and bleached kraft and produces a flexible, odor-free lamination with high resistance to water, heat and alcohol.

Advantages of POLYBOND PF-14 type of bond

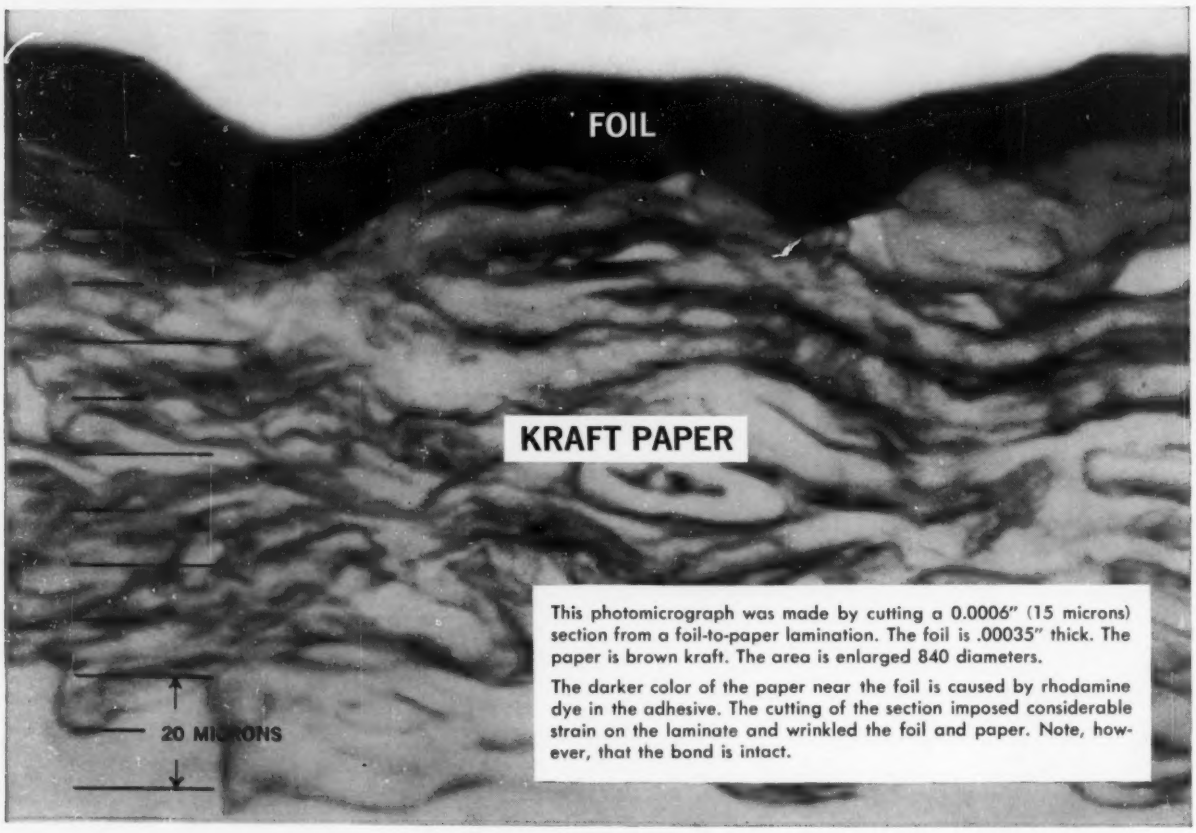
Greater strength through more intimate contact and attraction of surfaces . . . and elimination of possible "weak links" such as poor cohesive strength of a cured mortar-like adhesive.

Greater machine speed through minimum increase in moisture content at bond area.

Lower cost through minimum thickness of glue film and greater "mileage."

Free bulletin

Details on manipulating physical properties of POLYBOND foil-laminating adhesives for various types of structures and end use requirements. Address: Polymer Industries Inc., Dept. M1, Springdale, Conn., or Polymer Southern Div., Dept. M1, Box 2184, Greenville, S. C.



This photomicrograph was made by cutting a 0.0006" (15 microns) section from a foil-to-paper lamination. The foil is .00035" thick. The paper is brown kraft. The area is enlarged 840 diameters.

The darker color of the paper near the foil is caused by rhodamine dye in the adhesive. The cutting of the section imposed considerable strain on the laminate and wrinkled the foil and paper. Note, however, that the bond is intact.

Polymer Industries *Polymers, copolymers and solvent-base compounds for bonding, coating, sizing and laminating. Plants at Springdale, Connecticut and Greenville, S. C.*

The hot ideas in packaging have a habit of popping up at Milprint! One reason is that no other source works with such a wide variety of packaging materials . . . or has such vast experience in combining them for "custom built" laminations or extrusions. The result is sparkling, image-of-quality, protective packaging — like that produced by Milprint for Downyflake toaster-ready frozen waffles, pancakes and french toast. Put Milprint research and development to work on **your** packaging! Nationwide facilities assure fast, economical delivery of any quantity. Review your packaging regularly with Milprint experts! Start now.

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The machine shown is CRYOVAC's new SA 1 automatic wrapper for phonograph records and similar rigid and semi-rigid products.*

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Proven in commercial use for over a year

CRYOVAC Y FILM is the first polypropylene to be biaxially oriented in a perfectly *balanced* process. Balanced orientation means CRYOVAC Y Film shrinks equally and uniformly in all directions and offers a clear, glossy overwrap with several unique advantages:

- It is the most effective moisture barrier film available . . . 0.15-0.25 cc/24 hrs./100 sq. in./mil/@ 100% R.H. MVT rate.
- Y Film is rated at 21,000-27,000 psi, or at 5 to 6 times the tensile strength of polyethylene.
- Its gloss and clarity are comparable to polystyrene and cellophane.
- It is a stiff, high-slip film now in use on a wide variety of trim-seal machines . . . using the impulse sealing method and hot wire cut-off . . . plus general overwrapping machinery.
- Y Film has the highest yield of any thermoplastic film and can be used in thinner gauges than most films.

Y Film now has FDA approval for all food and drug applications. It is currently in use on a wide range of products where it offers exceptionally clear, tight packages at very low cost. For complete information, contact:

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*Patents Applied For

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...you buy a favorable, productive climate for advertising your packaging materials, containers, equipment and machinery, with this "one-book" access to the entire packaging field — through the special kind of readership delivered by Modern Packaging's editorial supremacy.

The Modern Packaging "Show Issue" will provide a complete Exposition Guide; floor plan, roster of exhibitors, schedule of all meetings and activities....A new feature includes the Annual Packaging Forecast (formerly a feature of the January issue). This section predicts the year ahead...what materials and methods hold greatest promise...focuses attention on areas of cost-cutting, increased profitability... technology changes, trends, etc. You'll discover that it pays to advertise in the "Show Issue."

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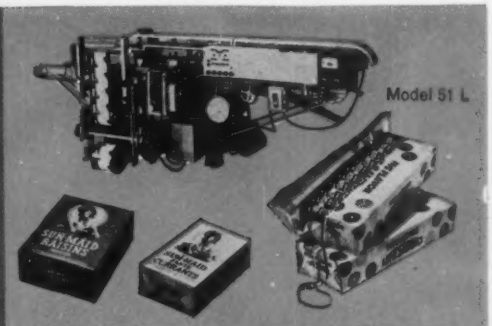
eliminate frustrating production bottlenecks with overwraps of 120 to 240 per minute



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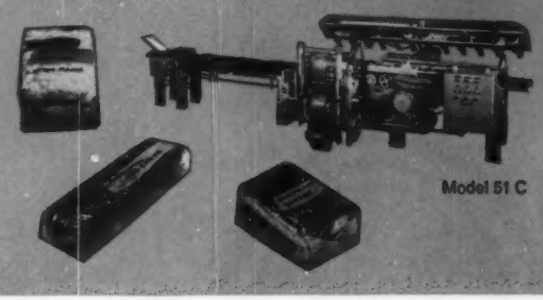
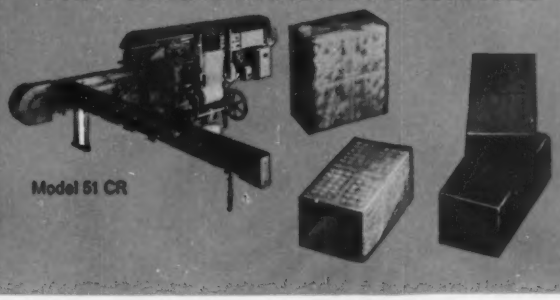


FRACTIONAL CRACKER PACKAGES



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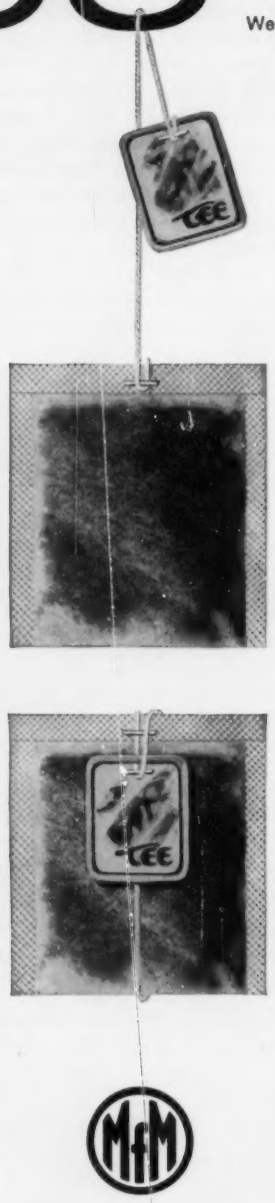
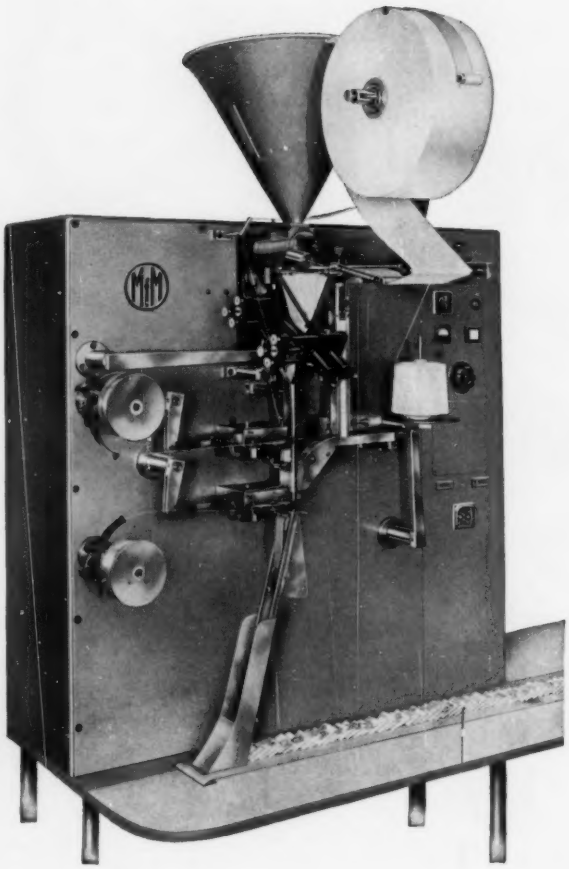
100 per minute

The new fully automatic Tea Portion Packaging Machine Type PT 10 produces 100 tea filter bags with string and label per minute.

The reinforced upper bag edge prevents the staple from loosening. Special features: simple and clear design, easy maintenance and attendance, minimum of floor space, very light weight.

West German patent and foreign patents. Please ask for leaflet covering this model.





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Correspondent's office: H. J. Jensen 350 Broadway, New York 13, N. Y.

Can You Spot the Chameleon?

On the supermarket shelf, some packages blend into the background and disappear. Like the Chameleon above, you don't see them. They are not competitive. **For the Competitive Edge** in packaging call on A-C-T, Kaiser's Aluminum Consulting Team.

Write: Kaiser Aluminum A-C-T Packaging, 850-C Kaiser Center, Oakland 12, California.

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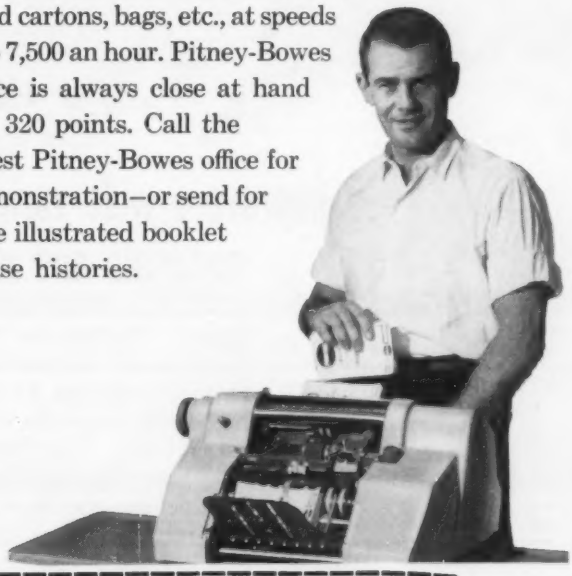
With any change of ingredients, price or specifications, preprinted labels, wrappers and tags become so much scrap paper. Thousands of companies cut inventories and prevent waste by imprinting packaging materials as needed—with a Tickometer.

The Tickometer can imprint size, color, weight, grade, quantity, contents, price or code—on labels, bags, wrappers, light cartons, tags—from 400 to 1,000 pieces a minute.

The Tickometer can use type, electros or rubber mats. It handles most weights and finishes of paper and light card stock in sizes up to 15 by 15 inches, feeds and stacks automatically, and is easy to use.

It can also count eight times as fast as an experienced manual worker—coupons, checks, sales slips, orders, tags, forms, etc. So accurate banks use it to count currency. With attachments it can do consecutive numbering, sign or endorse checks.

The Tickometer can be bought or leased. Also available is the Model 4800 Package Imprinter—which imprints folded cartons, bags, etc., at speeds up to 7,500 an hour. Pitney-Bowes service is always close at hand from 320 points. Call the nearest Pitney-Bowes office for a demonstration—or send for a free illustrated booklet of case histories.



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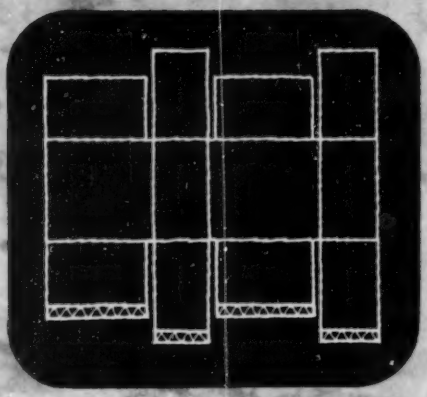
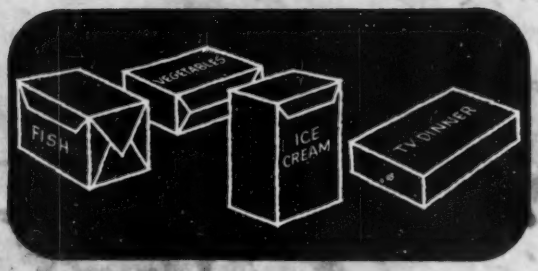


Corrugated Board Coatings

Hot-melt Epolene coatings specifically developed for use in high-speed curtain coating machines provide die-cut paperboard with a barrier against moisture and grease, and are highly resistant to abrasion. These clear, high-gloss coatings give a smooth, attractive finish that can be applied economically.



Carton Coatings

Special cuts of paraffin blended with 20 to 40% Epolene resins provide high-gloss carton coatings of particular interest to packagers of frozen foods. Resistant to grease and moisture, the coatings can be formulated to withstand low temperatures without cracking, flaking, or hazing.

Epolene®

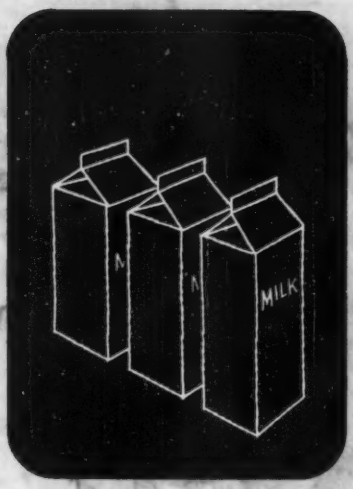
low-molecular-weight polyethylene resins...

...improve a wide variety of packaging materials and methods

Epolene low-molecular-weight polyethylene resins are chemical polymers whose physical properties are intermediate between those of paraffins and plastic-grade polyethylenes. Their molecular weights range from 1500 to 10,000. Like waxes, Epolene resins can be melted and blended with many natural and synthetic materials, paraffins, and other resins. Yet, the physical properties of Epolene resins are superior to most waxes—they are tough, flexible, and chemically inert.

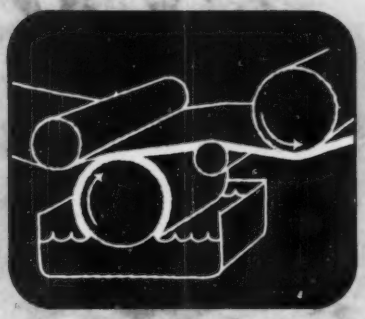
Epolene resins, singly or in combinations, contribute to improved performance in decorative moisture- and grease-resistant coatings for a variety of paper and paperboard packaging materials. Hot-melt adhesive and laminating formulations based on Epolene resins provide strong, quick-setting bonds between such diverse materials as aluminum foil; all types of paper; and cellulose acetate, polyethylene, and polyester films. In these and other applications, Epolene resins provide the means for improved performance and usefulness of packaging materials.

As indicated in the Tables, the basic types of Epolene resins vary in characteristics as their molecular weights or densities approach those of paraffin or a plastic-grade material. Some idea may be obtained from these Tables as to which Epolene resin will prove most suitable for your particular packaging product. For more information, and for technical assistance in selecting and using Epolene low-molecular-weight polyethylene resins, write Chemicals Division, EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENN.



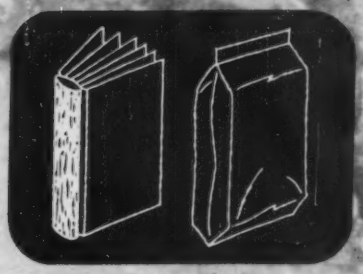
Paraffin Modification

As little as 2% of an Epolene resin in the formulation reduces the tendency of paraffin coatings to crack and flake.



Paper Coatings

Hot-melt Epolene coatings applied by roll coating techniques on foil, parchment, kraft, glassine, chipboard, and most other paper stocks give these packaging materials an attractive gloss plus a high degree of moisture resistance and grease resistance. Such coatings can be formulated to make them readily heat sealable.



Hot-melt Adhesives

Economical hot-melt adhesives are formulated with Epolene resins for a wide variety of high-speed packaging and sealing operations. Applications include bookbinding, labels, and lamination of foil, paper, and plastic film.

Other Applications

There are many other packaging applications for Epolene resins. Some are still under development, others are being tested and evaluated in the field. Please write for specific information in the area in which you are especially interested.

Emulsifiable Epolene Resins

wax-like properties ← → plastic-like properties

Effect of Molecular Weight on Viscosity

TYPE	E-14	E-11	E-12	E-10
Molecular Weight	1400	1500	1500	2500
Viscosity at 125°C., cps. (Brookfield)	300	375	410	2000

Effect of Density on Hardness and Tensile Strength

TYPE	E-14	E-11	E-10	E-12
Density	0.935	0.938	0.940	0.950
Penetration Hardness (100g./5 sec./77°F.)	3.5	2.5	2.0	1.5
Tensile Strength, psi	430	510	1300[a]	530

Non-Emulsifiable Epolene Resins

wax-like properties ← → plastic-like properties

Effect of Molecular Weight on Viscosity

TYPE	130° AMP PARAFFIN	N-12	N-11	N-10	C-12	C-10	C-11	TENITE 810[b]
Molecular Weight	325	1500	1500	2500	3700	7000	10,000	38,000
Viscosity at 125°C., cps. (Brookfield)	3	364	390	1990	900[c]	14,300	>25,000	>100,000

Effect of Density on Hardness and Tensile Strength

TYPE	130° AMP PARAFFIN	C-12	C-10	N-11	N-10	N-12	C-11	TENITE 3300[d]
Density	0.850	0.897	0.906	0.925	0.927	0.937	0.947	0.960
Penetration Hardness (100g./5 sec./77°F.)	15	11.5	2.5	2.0	1.5	1.5	<1	<1
Tensile Strength, psi	180	200	730	550	920	brittle[e]	1700	4000

a. Tensile strength is higher than density alone would indicate because of a higher molecular weight. b. An Eastman plastic-grade polyethylene. c. Chain-branching in this polymer reduces viscosity below that of more linear polymers, even at higher molecular weight. d. An Eastman high-density plastic-grade polyethylene. e. Too brittle to prepare film.

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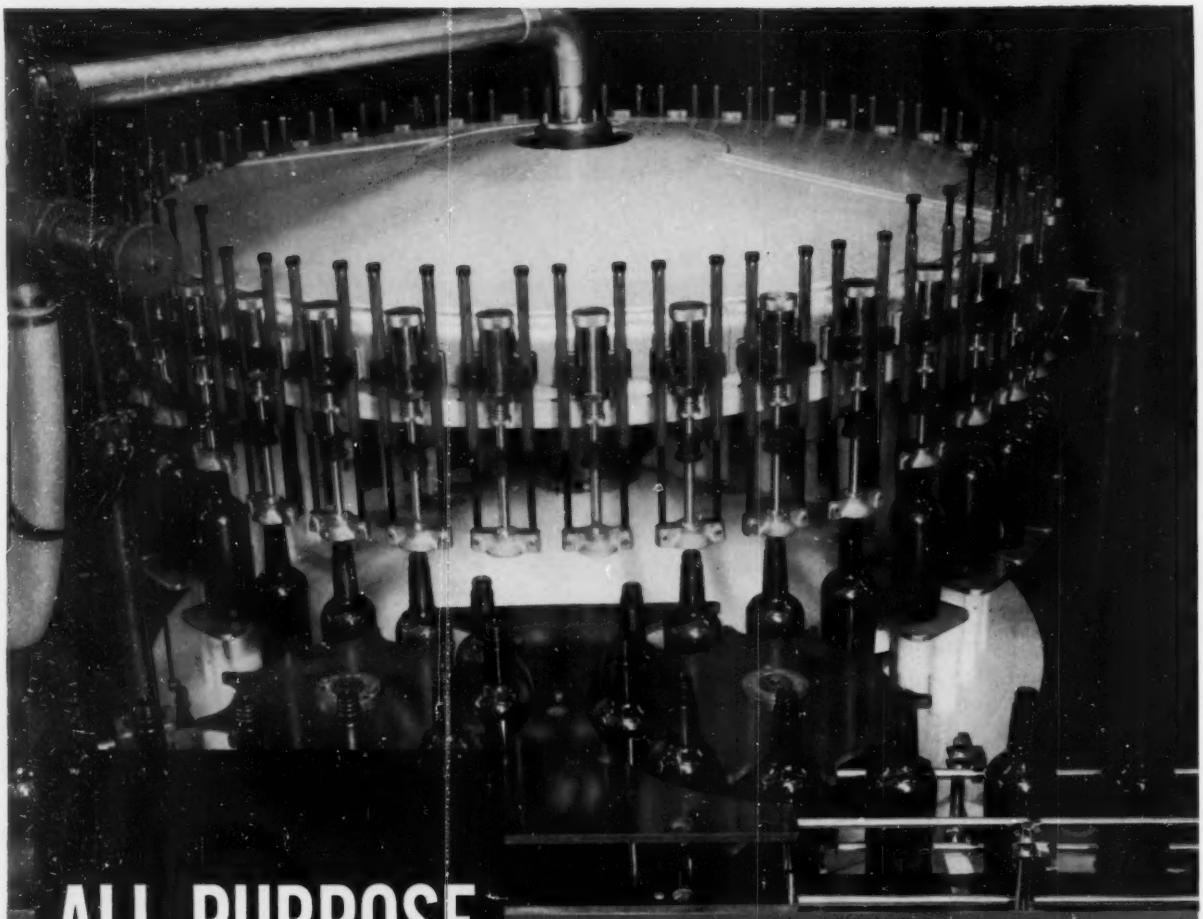
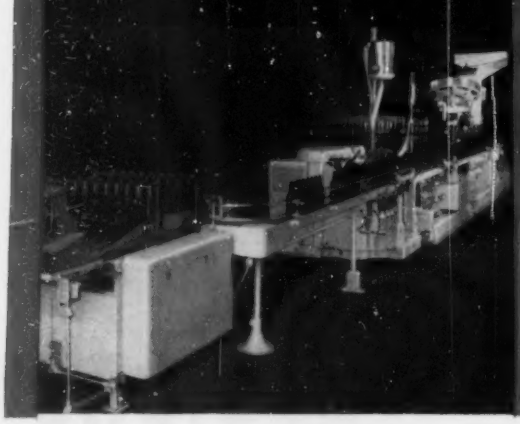
Epolene®

Eastman low-molecular-weight polyethylene resins



ALL PURPOSE FILLING EFFICIENCY



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It's aptly named "All Purpose." It will operate with any combination of vacuum, gravity or pressure filling method that suits your situation . . . dependent on what you have to fill.

Standard equipment includes a device which automatically holds the fill to just the right level with adjustments easily made as the machine continues to operate. With costly fluids such as bonded liquors, this "guardian" is a priceless money saver.

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EDITORIAL MEMO

A change for the New Year

At the beginning of a new calendar year, it's customary for a business magazine such as ours to review the developments of the preceding 12 months and to forecast the outlook for the coming year.

This year, MODERN PACKAGING will depart from custom.

The readers of MODERN PACKAGING have a wide range of interests and responsibilities, depending upon their job function and product industry. It is our opinion that they are surfeited at this time of the year with review-and-forecast articles in newspapers and magazines—all demanding time and study. We'd rather not add one more such article to their burden at this particularly busy time.

Packaging, unlike some business functions, does not necessarily run by the calendar. It is governed by events. And there is one event each year which, more than any other, brings a concentrated exposure of new packaging developments and commands the attention of the entire packaging world. We refer to the National Packaging Exposition of the American Management Assn.—the only comprehensive, annual event of its kind.

We think it will be more meaningful and more timely if we give you our annual analysis of packaging trends at Show time.

Therefore, you'll find in our forthcoming April issue the type of review and forecast which you have been accustomed to seeing in January. Six of our editors have been assigned as a team for this project and are already probing, weighing and analyzing the recent developments in their special areas. We already know that by April we will be able to throw real light on some exciting new prospects which as yet are not clearly defined.

This year we will continue our very popular cover series of *Success Stories*, analyzing recent outstanding successes in a number of different product fields. And in this issue (p. 59) we inaugurate a new monthly feature, *Profiles in Packaging*, to give you personal close-ups of some of the people who make packaging work.

It is our pledge for 1962 that MODERN PACKAGING will continue to be "the complete authority of the packaging field," with the broadest and deepest coverage of this subject that it is possible to place in print. It is our sole editorial purpose to serve you, the reader, better and we will not hesitate to make any change of timing or content to further that goal.

We hope you approve of this program. And a Happy New Year!

The Editors

MODERN PACKAGING, Executive Offices, 770 Lexington Ave., New York 21. Member, *Packaging Institute, American Management Assn., National Flexible Packaging Assn., European Packaging Federation, British Institute of Packaging.*

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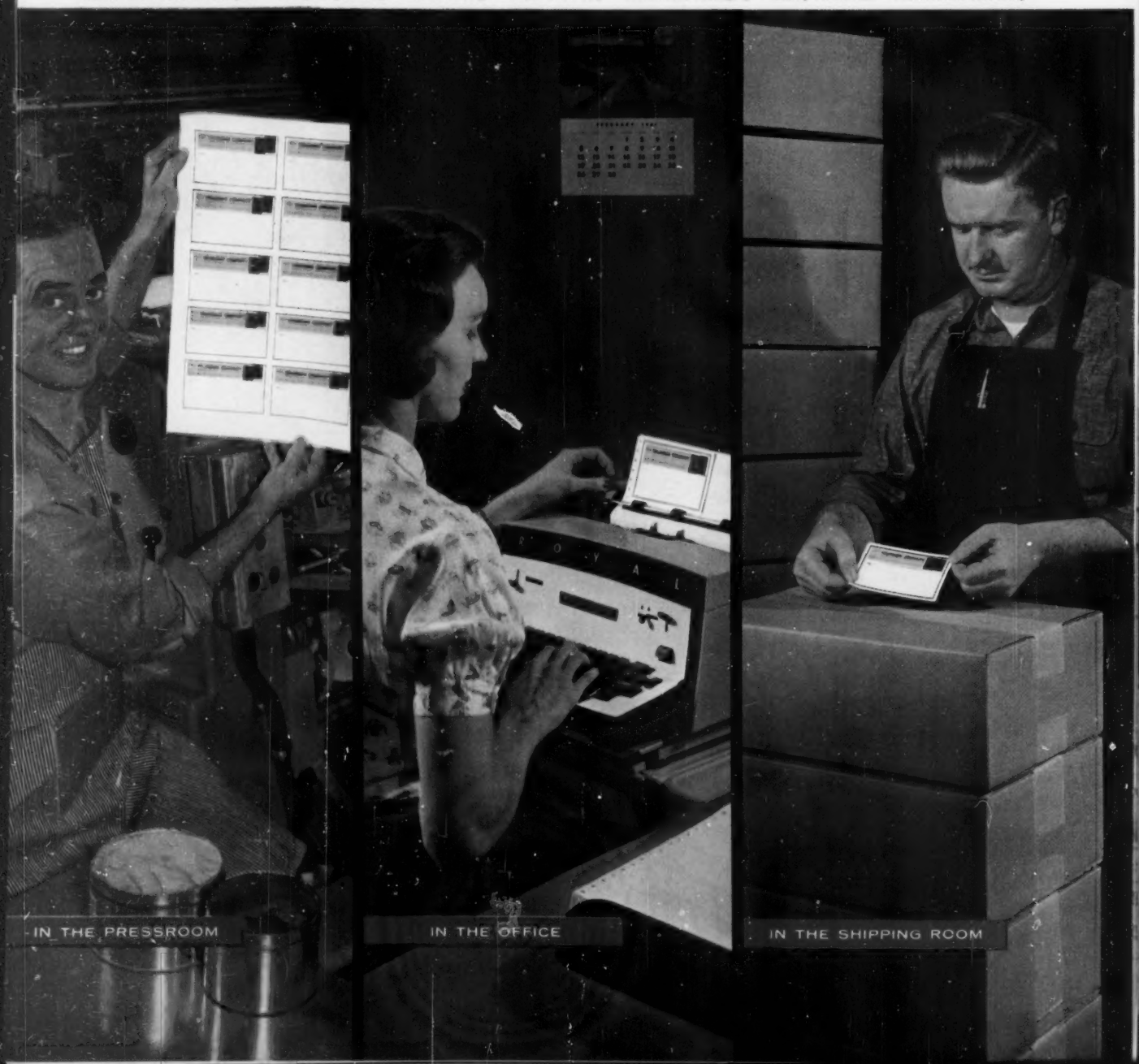


MODERN PACKAGING
JANUARY 1962 Vol. 35 No. 5 / THE COMPLETE AUTHORITY OF PACKAGING

Bagging of bread *is spreading fast because of popularity with housewives. This metal-clipped bag of loose-fitting polyethylene, pioneered by Albertsons Supermarkets, Boise, Idaho, is now used in its 72 Northwestern stores. Housewives like opening and closing convenience. (Bag by Kordite)*

Bakers set pace in film

Intense competition in this field, always a leading consumer of wraps and bags, provides a proving ground for the newer cellophanes and thermoplastics, and spurs development of machinery

Like biologists who study the genetics of fast-breeding fruit flies to predict slower changes in the human race, packaging technologists with a stake in flexible-film packaging should take a close look at the current developments in the specialized field of bakery packaging.

Here, intense competition—on the part of both bakers and their packaging suppliers—is producing accelerated changes in packages, materials and machines that may influence, though more slowly, the use of flexible film in many other industries.

While these changes affect all types of bakery goods, they are most pronounced in such quick-turnover products as bread and sweet goods. Bread packaging in particular is caught up in two trends that can only be described as schizophrenic. On the one hand, packagers are striving for transparent high-barrier wraps that are technically efficient and run at high speeds on machine. But there is an equally strong movement toward loose-fitting, casually fastened film bags that have little or no technical advantages and are as homespun as the old-fashioned cracker barrel—deliberately so.

The marketing reasons behind these two opposing trends in the bakery field and the corresponding changes in packaging production are already being

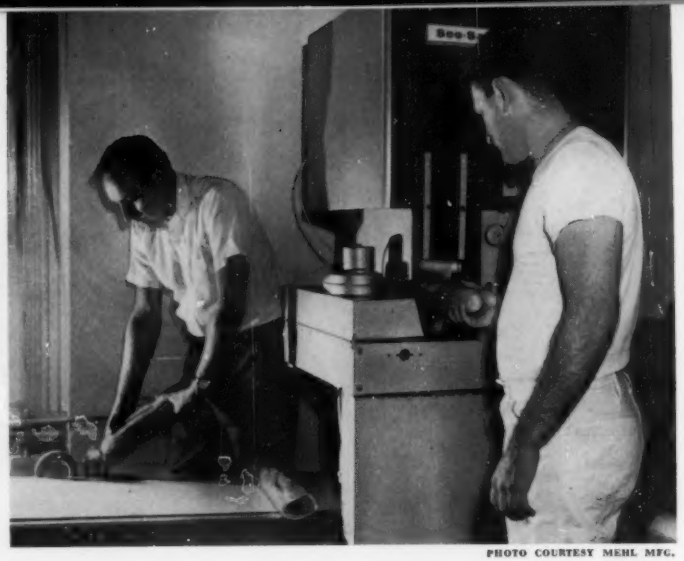


PHOTO COURTESY MEHL MFG.

Bread-bagging machine *utilizes a vertical, folded film web mechanically spread for hand insertion of product. Horizontal and vertical heat sealers permit formation of either a full-sealed pouch or an open-topped bag closed with twist tie or with tape, as at left.*

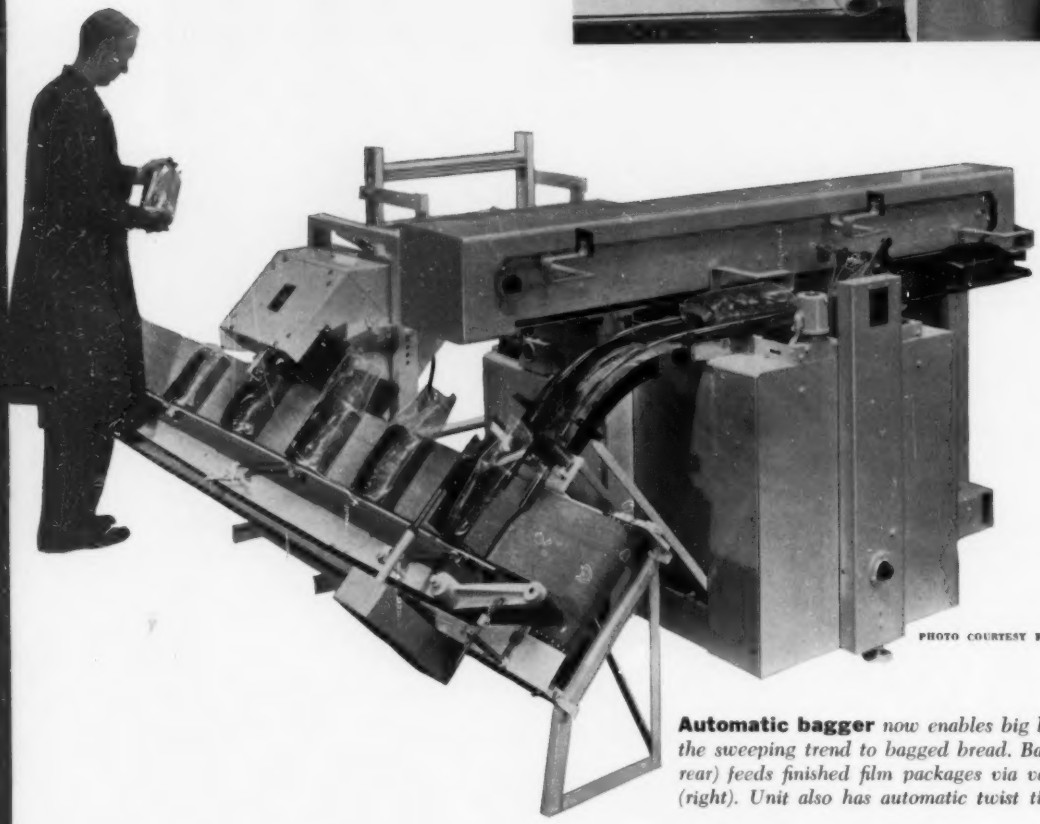


PHOTO COURTESY FMC.

Automatic bagger *now enables big bakers to get in on the sweeping trend to bagged bread. Bag former (center rear) feeds finished film packages via vacuum belt to loader (right). Unit also has automatic twist tier (bottom left).*

PHOTO COURTESY SCHJELDAHL.

Versatile packager *that drew attention at the recent bakers show forms either a wrap or a twist-tied bag. It features a film-saving side heat sealer (left) and applies a conventional label to one end of the bag (center) before closing the package with a twist of tape (right).*

reflected in new designs for packaging machinery. Some of the thinking and the new equipment are sure to interest packagers in such other food fields as meats and frozen foods and in such non-food areas as textiles, paper products and hardware where similar tight-wrap vs. loose-wrap decisions must be made.

Most of the reasons for the current packaging picture in bread can be traced basically to the situation in films. Here, transparency is an acknowledged trend, but the battle for dominance among the various types of film is only beginning.

Struggle among films

Cellophane—particularly the newer, high-barrier, polymer-coated types—is thoroughly entrenched and still holds a commanding lead in bread wrapping with a growing usage now totalling 70 million pounds per year. Cellophane suppliers are trying to retain this position by emphasizing the importance of barrier properties and of smooth, tight wraps. More directly, they have boosted the yield of these films and cut the price 5 cents per pound to give the baker (and other interested users) a high-barrier film for 2.9 cents per 1,000 sq. in.—a figure very close to the price of ordinary cellophane. As a result, the use of the polymer-coated films has doubled this year for bread wrapping.

Polyethylene—whose gains these moves are calculated to offset—has in three years leaped from a novelty to a 20-million-pound success in bakery bags and wraps. The advantage of this film is mainly price—which runs from 1.78 to 2.26 cents per 1,000 sq. in. for the most commonly used medium-density materials. Technical improvements that have been made in film transparency and gloss by chill-roll quenching techniques and in barrier properties through adoption of higher-density resins have also contributed to its success.

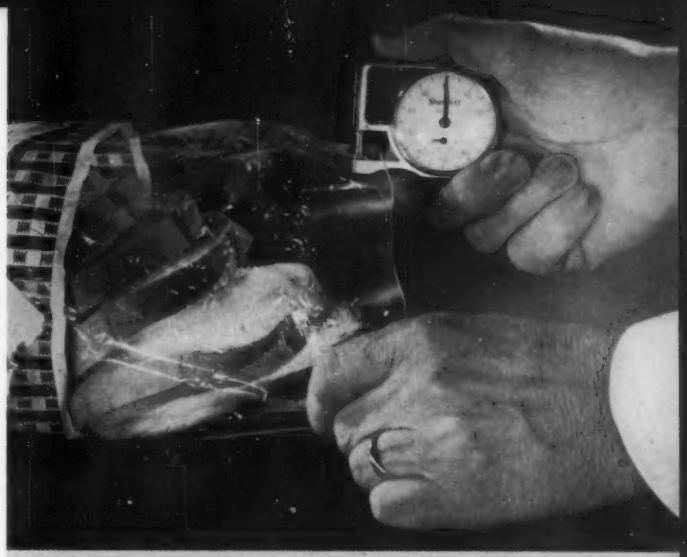
Polypropylene is already challenging polyethylene's newly won position. In less than a year, this thermoplastic film—which is really two materials with quite different properties—has captured a market estimated at from 12 to 15 million pounds among bakers alone. Most of this film has been of the regular type, chill-roll quenched for better gloss and available at a price of 1.81 to 2.0 cents per 1,000 square inches. But already a thinner, bi-oriented type is appearing, at a price of 2.1 cents per 1,000 sq. in., that is said to give better barrier protection and easier machine handling.

Film-bagged bread

The growing move to polyethylene bags for bread, closed with a simple metal twist tie, pressure-sensitive tape or plastic clip, appears to stem from initial use of this film as a wrap and from the numerous heat-sealed polyethylene bags for rolls that have been standard for the last few years.

When the first twist-tied bags made their appearance two years ago in the Northwest, they were regarded as a fad by packaging experts and later were criticized by many as a backward step in packaging. But, good or bad, they are no longer just a fad. In the past few months, bread bagging has begun to sweep down into the Southeast and Midwest. And in the Northwest, where the package started, bakers report that twist-tied bags have captured as much as 60% of some bread markets.

Bakers and their suppliers—still cautious about



Film competition *in the general bread-wrap field is growing with such materials innovations as tough and economical ¾-mil bioriented polypropylene (Kordite), shown above, already in use by a big Midwestern bakery, and a lamination of waxed paper and cellophane panels (Austill, Avisco), shown below, to eliminate separate web feeds and loose inner band; this is used by A & P in the Southeast.*

the significance of this move—immediately tried to find out why. The answer, which may be of importance to many food and non-food packagers, appears to be this: Housewives think the package connotes a home-made product (which is fine for food products) and they find convenience in the easy-to-open and recloseable twist tie (an advantage for any multi-use product). Also, homemakers appear to have a compulsion to save plastic bags for re-use—finding many more secondary uses for them than could possiby be listed in this space.

While this fascinating trend would appear to be a striking gain for the thermoplastics, cellophane men also are keenly interested in the twist-tied closure and are checking the possibility of twist-tied cellophane bags for breads and bakery sweet goods.

Benefits from film competition

What is the significance to all packagers of this struggle among the various films?

It has already provided the entire packaging field with better cellulosic and thermoplastic films at lower prices. But there is more to it than this. If the low-cost thermoplastics win out, cellophane men must work harder for methods of extending the yield of their films and for improved cost-cutting production techniques that will inevitably lower cellophane-film prices still further.

If the arguments for high-barrier properties prevail, suppliers of thermoplastic materials will have to boost these values in their own films, probably with supplementary polymer-type coatings, which a number of companies are already researching.

There is even a possibility that the new shrinkable thermoplastic films, which have been growing in use for the packaging of sweet bakery goods, may be used in bread packaging.

Meanwhile, all interests continue to improve the basic properties of their films and the efficiency of the use of these films on packaging machinery.

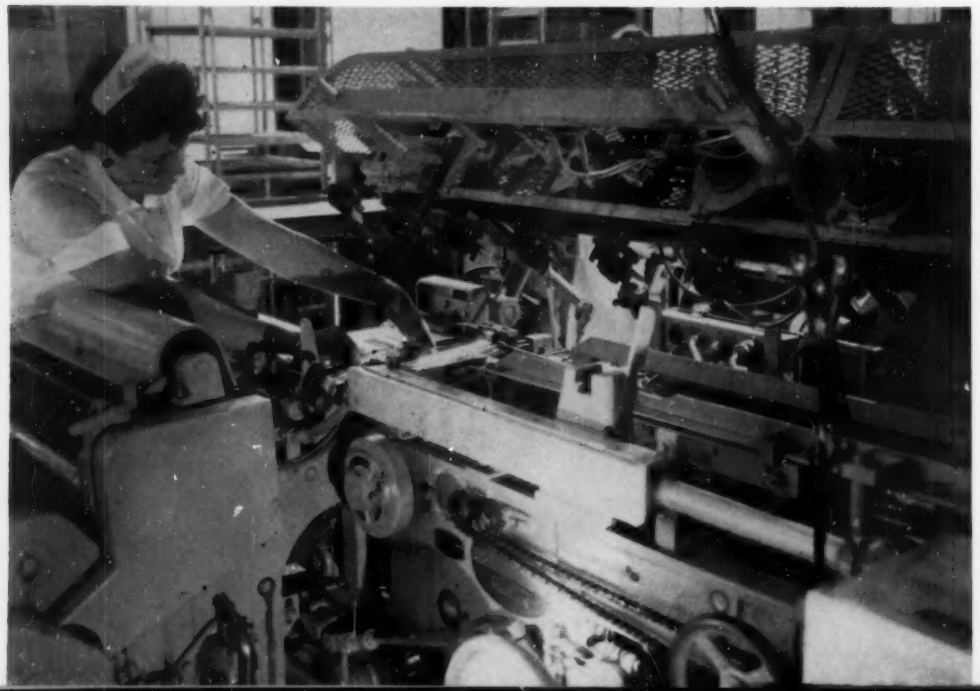
What's happening in machines?

This leads to the question of how machinery makers are meeting the confusing situation of cellulosic vs. thermoplastic films and bags vs. wraps. A fact that should not be overlooked is that waxed paper is still the most popular wrapping material for bread (about 100 million pounds per year for wraps) and must be considered in all machine designs. Bakers have a penchant for switching their types of wraps and insisting that all materials must run on the same machine.

Because of the speed with which the trend toward bagging has grown, the development of special equipment for this package has further strained the available machine-designing facilities.

Despite the problems, available machinery does a very creditable job. New baggers and wrappers are particularly designed to handle thermoplastics effectively. And radical new machine designs now under consideration, primarily for wrappers, hold out great promise—not only for bakery packaging,

Advanced machinery *for film packaging is exemplified by this high-speed cellophane wrapper used for small cakes in General Baking Co.'s Baltimore plant. With an output of 120 units per minute, it doubles previous packaging rate. Unit opens up completely to facilitate clearance of jammed packages or maintenance work. (Machine by Battle Creek)*



but for many other packaging purposes in the hardware, paper products, textile and food fields.

Because markets for bagged bread vary radically in size, there has been a demand for bagging equipment of almost every speed and degree of automatic action. At first, hand-bagging units used extensively in the textile field (Tele-Sonic, Errich International) were most popular. These are still in use by the bakery field because they are low in price and can be equipped with new large magazines that hold more bags and thus operate for longer periods without reloading, an increase in operating efficiency that may be of interest to packagers in other fields where these machines are employed for textile as well as for food packaging.

Lately, one semi-automatic bagging machine, working from roll-stock film and used previously in other packaging fields, has been adapted to make and fill bread bags at faster speeds and lower material costs. This moderately priced unit (Mehl Mfg.) is a vertical packer that operates from a center-folded web of polyethylene and can be adapted to form either an open-topped bag for twist-tie closure or a completely heat-sealed bag.

Used initially with shrink films to package phonograph records and albums, the unit is easily adjustable over a large range of bag sizes and depths and can handle loaves of either specialty or regular bread, sweet goods, or rolls and buns. It is hand fed at up to 30 bags per minute and the double film web is spread mechanically to speed product insertion. Transverse heat sealers form the bag and cut it from the web. Twist tying can be done manually on the exit conveyor. Addition of a vertical heat-sealing bar enables the bag to be automatically sealed for either bread or rolls.

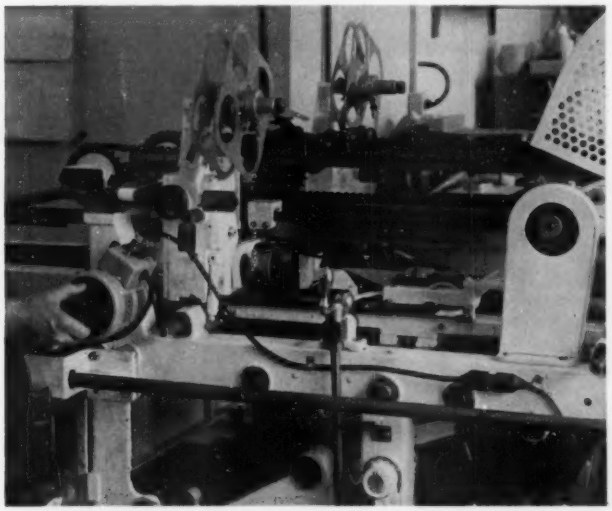
So versatile is this unit that it has been proposed for the bagging of such non-food products as textiles, books and hardware.

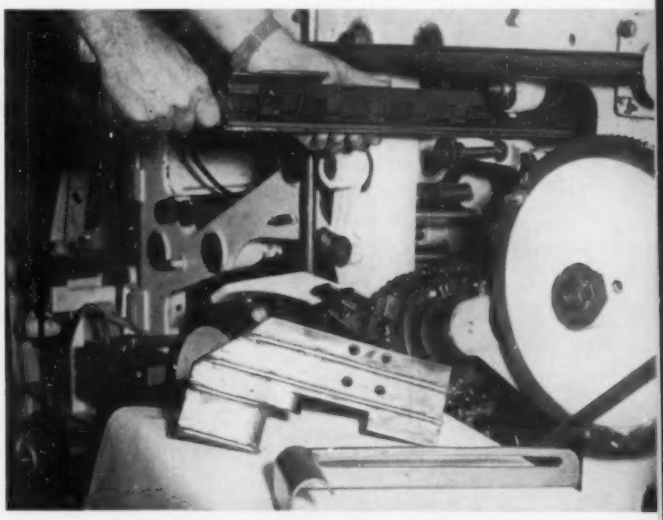
An automatic machine (Carbert) that works with pre-formed bags and provides a complete heat seal has also been introduced to the bakery field, where it is used for rolls and buns. But so far, it has not been adapted to handle twist-tied bags.

For the big bakers, however, these machines are too slow. Thus, keen interest is shown in two fully automatic bagging units introduced at the recent Baking Industry Exposition in Atlantic City. Although designed for the bread-bagging field, these relatively high-priced machines have some interesting points for other packagers.

The first (FMC) combines bag-making and loading principles and also incorporates an automatic twist-tying device that puts the whole operation on a non-stop basis at 65 bags per minute. The bag-making section utilizes center-folded polyethylene film, and heat seals and severs bags from the web. These are conveyed to the packaging section by a vacuum belt. Bread loaves are fed automatically to the loading station by a bucket conveyor, which slides them into the bag as it is held open by vacuum cups. Dropped to an [*Continued on page 165*]

Special devices *quickly installed on standard wrappers enable bakers to run thermoplastic films with minimum problems. Right, conventional bread wrapper (AMF) is converted to handle hard-to-cut polypropylene film by the addition of a heated cut-off knife closely controlled in temperature by a fused variable transformer, left. (Modifications by AviSun)*





TOP-OPENING

Backroom benefit *of California & Hawaiian's economical end-loaded shipping container is that it opens easily from the top for rapid price marking, solving a major problem of this type of carton. Controlled glue areas on end flaps are lifted free before the rayon-fibre-reinforced tape is stripped off.*

An end-loaded corrugated shipping carton whose top can be easily opened to facilitate in-store price marking of its contents is being proved out in a volume application by California & Hawaiian Sugar Refining Corp., San Francisco.

Its significant "secret"—which could well foreshadow a sharp upsurge in acceptance of this board-saving container—is a rayon-strand reinforced gummed-paper tear tape applied along the manufacturer's joint during carton construction. Eliminating the need for knives or other potentially damaging opening tools, the reinforced area of the tape tears cleanly away in a single unbroken strip, for swift and simple case opening.

In effect, the new refinement combines a major advantage of conventional top-flap cartons (ease of access for price marking) with the attractive economy of end-flap shippers (savings of as much as 15% in containerboard). Coupled with the fact that machinery exists for high-speed automatic loading of end-flap cases,* this C&H application merits an examination by cost-conscious packagers of a virtually limitless variety of different products.

The experience of C&H (1,800 employees, $170,000,000 gross sales) can offer helpful carton-performance pointers for other packagers who may be contemplating a switch to end-loaded shippers.

Basic economy was the lure that led the packager to adopt the end-loaded case for some of its big-volume cartoned sugar products. However, says the company, it quickly found that a disadvantage of this type of shipper was that it could not be opened easily for rapid price marking of the contents—a retailer "must" in light of rising backroom-labor costs. An obvious solution was to use a tape that could be stripped off along the manufacturer's joint so the carton can be opened from the top.

A number of tapes were tested, some specifically reinforced to C&H specifications. But none offered the quick, clean tear-off required for easy opening. Some tapes, the packager reports, broke part way through the tear; those that did not, left a thin residual layer of gummed kraft that had to be slit with a knife to clear the manufacturer's joint.

C&H took the problem to its supplier companies. Out of this cooperative powwow evolved the tough

*See "End-Loading Can Caser," MODERN PACKAGING, March, 1958, p. 132.

END-LOADED CASE

Achieved by sealing the manufacturer's joint with reinforced tear tape, it facilitates in-store price marking and brings big containerboard savings to a West Coast sugar packager

and effective tear tape that now appears on all end-loaded cases used by the company. It is a two-ply, strip-laminated kraft tape with three lengthwise rayon strands imbedded parallel to each other at ⅛-in. spacing in the center of the gummed ply. Strip lamination, which creates an "air cell" between the two paper plies, is reported to give the tape superior strength and shock absorption.

A notched starter tab provides the necessary thumb-and-finger grip that enables the cord-reinforced section of the tear tape to be pulled away cleanly and swiftly, without skip or tape rupture.

C&H notes that the new rayon-reinforced two-ply tape costs no more than the non-asphaltic glass-fibre-reinforced tape it replaces. The tape also is reported to be competitive in cost with many materials without fibre reinforcement.

Two other carton-construction features enhance the in-use convenience of C&H's end-loaded case and testify to the careful attention given to detail in developing the present shipping package:

- The shipper's upper end flaps, which must be lifted off before the tear tape is stripped away, are spot treated with adhesive in their lower corners only, to permit simple and damage-free release.
- The score line opposite the manufacturer's joint on the top panel of the shipping case is perforated along its entire length. This permits the worker to flip the top panel back out of the way so it will not interfere with price marking.

In addition to the advantages of board economy and newly improved performance, C&H reports that the end-loaded cases stack more securely, thanks to their smooth, continuous top and bottom surfaces. Using less board, the end-loaded shippers are lighter and occupy less space when knocked down.

So satisfied is C&H with the top-opening end-loaded case that the packager has adopted it as the standard shipper for large-volume sugar products.

SUPPLIES AND SERVICES: End-loading corrugated shipping carton by Fibreboard Paper Products, 475 Brannan St., San Francisco 19, and Longview Fibre Co., Longview, Wash. "Ziploc" tear tape by St. Regis Paper's Gummed Products Co., Troy, Ohio.

Clean tearing action *of reinforced two-ply tape (left) is achieved by three parallel strands of rayon imbedded in the glue ply. The tough new tape will not rupture or tear carton (below), chief disadvantages of tapes formerly used.*

Three-dimensional *nature of the new bubble package is shown in edge view that reveals how two halves are welded together.*

Twist opening *created by flanged and die-cut section of the thermoformed bubble package provides user convenience. Note faint line in flange, indicating two-stage heat seal.*

LAMINATED-PLASTIC

Miniature bottle-like bubble packages thermoformed from two webs of a special three-ply plastic sheet laminate are chalking up significant savings as 15-cc. sample containers for Analexin syrup, made by Irwin Neisler Co., Decatur, Ill. The semi-rigid plastic squeeze package in larger size may soon find broader use as a resale package for other liquid and even powdered products.

Formed by a high-speed machine of unusual design that turns out up to 200 units per minute (five up), the new container, filled with a controlled amount of product, is made from two half-bubbles, formed in inexpensive epoxy molds that reduce the cost of tooling by as much as 70%.

The bubble package—which combines some of the advantages of a glass bottle with the economy and convenience of flexible plastic—has previously been made either from flood-filled tubing[1] or from single-layer plastic sheet thermoformed on a slower horizontal machine.[2] The new equipment, designed and constructed by a contract packager, is vertical in action and integrates the forming, filling and sealing operations in a fast-acting sequence. Because it works from flat sheets and low-cost molds, package size and shape can be readily changed and replicas of larger containers easily created.

Prime advantage of this container to Neisler is its economy. It costs less than half as much as the previous 15-cc. glass bottle. Shipping costs are reduced by about 60%, since the pouch is only two-fifths the weight of the bottle.

An additional advantage is an integral twist-off

[1]See "One-Shot Plastic Bubble," Modern Packaging, April, 1958, p. 110.
[2]See "Bottle From Plastic Sheet," Modern Packaging, April, 1960, p. 84.

No-drip control *of constricted dispensing nozzle prevents leakage in any position. Multi-step forming and filling permit regulated fill and head space.*

Squeeze dispensing *facilitates drop-by-drop metering. High-barrier lamination of acetate-polyethylene-saran guards volatile constituents.*

High-barrier commercial packages for liquid or powdered products are foreseen in low-cost drug samplers thermoformed from three-ply laminate then filled and sealed, all on a new 200-per-minute vertical machine

BUBBLE PACK

opening device created by a special flanged and die-cut section at the top of the package that can be removed with a simple motion of the fingers. When opened, a restricted neck, blown into the sheet plastic, prevents accidental dispensing regardless of the position of the container. The contents are dispensed only by squeezing the bubble.

While the new 15-cc. bubble package is initially being used for professional pharmaceutical samples, the container can be made in larger sizes and a variety of shapes for many liquid and powdered products, according to the inventor. In fact, several commercial sizes are now under consideration.

The package is formed from two webs of a special laminate of 5-mil cellulose acetate and 1-mil polyvinylidene chloride (saran) films, bonded with a hot extrusion of polyethylene about 1 mil thick.

The resultant web is readily formed by heat and air pressure, and retains its three-dimensional shape independent of product pressure. The front and back of the bubble are formed simultaneously, but separately. For Analexin syrup, the finished container is a miniature of the full-sized commercial bottle. The final package, which is flanged and heat sealed around the edges, narrows at the top to form the dispensing nozzle and the twist-off opener.

Impervious to most liquid products, the container, due to the saran layers, also provides a strong barrier to aromatic product constituents. Stronger barriers are reported to be possible using heavier film gauges or laminates of other films.

The high-output machine on which this package is formed is intermittent in action and cycles at a relatively slow rate of 40 strokes per minute. But,

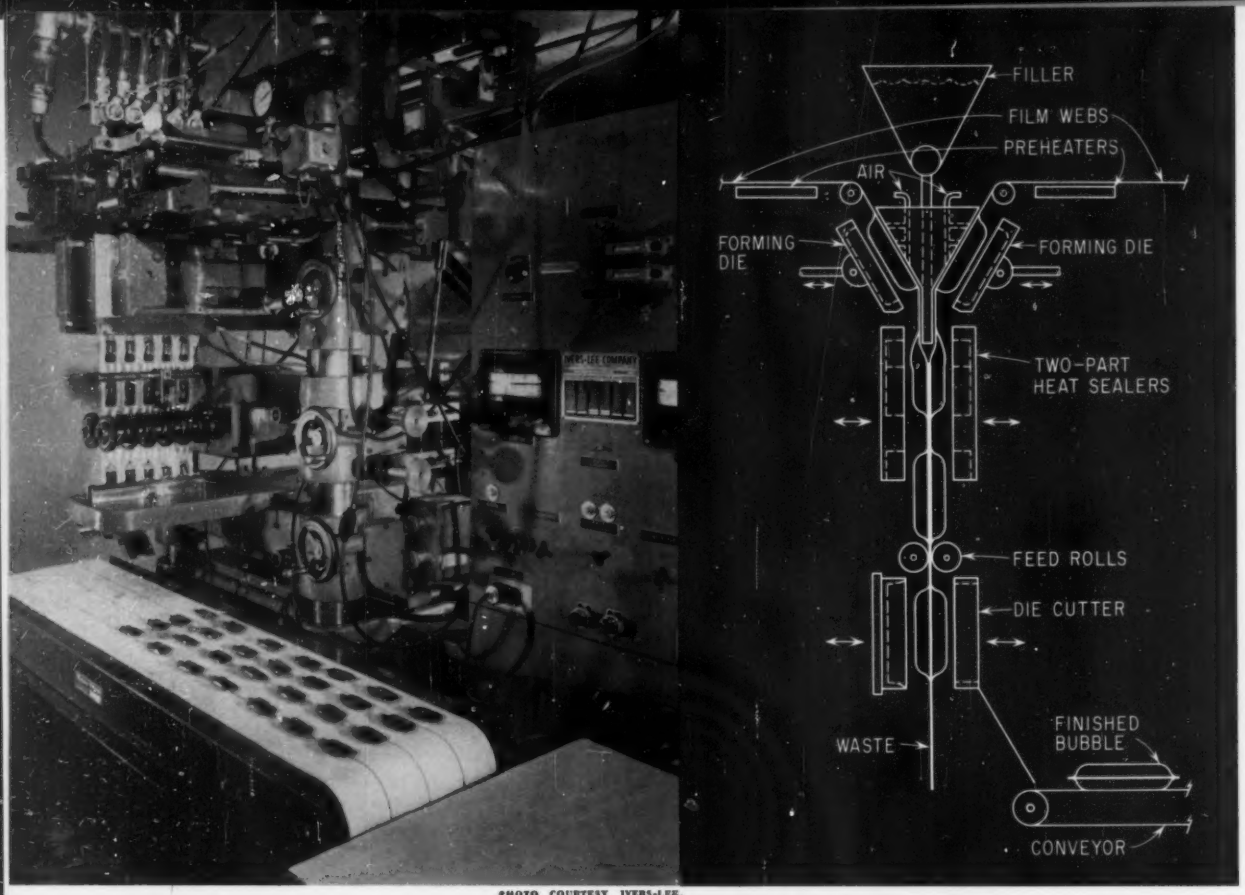


PHOTO COURTESY IVERS-LEE.

Five-stage machine *pre-heats dual plastic webs (diagram), pressure forms two halves of package (five up), partially seals and fills the containers, closes the package and punches completed bubbles from the web at 200 per minute. Key to operation is sensitive temperature controllers in instrument panel (photo) that govern pre-heating and sealing.*

the close coupling of the forming, filling and the sealing stations enables a high production output. It works from a single roll of film, which is split to form the two separate webs for the backs and the fronts of the containers.

How machine operates

After passing over pre-heaters to soften the film, the webs are drawn into angled thermoforming dies, where the two halves of the bubble are formed under air pressure. Each 9-in. forming platen creates five package halves at a time. The halves of each container are then drawn together around the filling nozzle of the machine. The upper two-thirds of each container is heat sealed and the package filled with a single stroke.

Because the package is formed before filling, it can be filled with any desired amount of product and can have a controlled head space or even an inert atmosphere. At the next station, after the package has been drawn down and away from the filling nozzle, the top third of the package is heat sealed. Still in web form, the container then passes through two nip rolls that provide the motive force for the still unsevered film strip. Here, there is room for an in-line printer or coding unit, though the Analexin package is formed from a pre-printed web of material. Passing on to the final die-cutting station, completed bubbles are punched out from the web and finally drop onto a conveyor that carries them to the hand-casing operation.

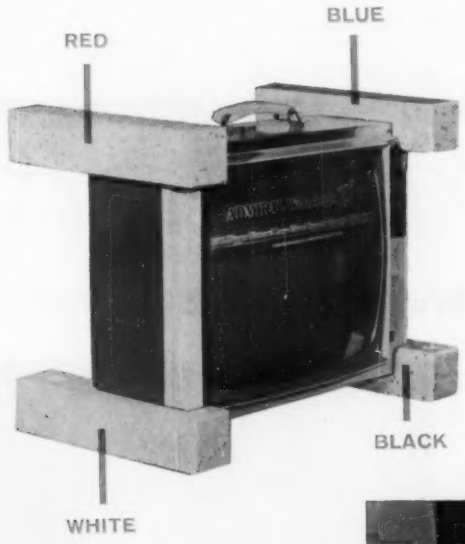
Two critical operations characterize this machine. First, the webs of plastic must be heated and formed without having them weld together at the filling station. Second, they must be firmly sealed at the proper time without deforming the package. To perform these paradoxical tasks requires strict control of both the degree and area of heat application and necessitates accurate temperature regulators and molds of ingenious design.

Because of its newness, the breadth of application for this package is uncertain. But with the current emphasis on portion control and consumer convenience—and the obvious economy of a plastic bubble—it may find wide application for many food and drug products and for industrial items.

SUPPLIES AND SERVICES: "3-Dee" film package and machine and contract packaging by Ivers-Lee Co., 215 Central Ave., Newark 3, N.J. Laminated film by Dow Chemical's Dobeckmun Co., Cleveland 1.

COLOR-CODED CUSHIONING

Almost-identical corner pads of polystyrene foam are identified by differences of color, sprinkled into the plastic itself, that tell which pad goes where in the packing of Admiral portable television sets



Colored pads, *molded of polystyrene foam to fit individually contoured edges of TV set, leave rest of case surface open. Specks of color (expanded pellets of polystyrene) guide packers (photo at right) in positioning the proper pad at each corner of the set and shipper.*

The already widespread acceptance of polystyrene foam as a cushioning material is growing as packagers find new ways of putting this versatile, low-cost material to work. Now the foam itself is colored so packers can select and position the correct cushioning units according to a packing plan.

Admiral Corp., the Chicago-headquartered manufacturer of television sets that devised this technique, achieved a 30% reduction in interior-packaging costs when it switched to polystyrene foam for protection of its portable TV sets during shipment.

In its regular slotted corrugated shipper, four almost-identical rectangular pads of foam—molded to fit just the side edges of the sets, top and bottom—have been substituted for two built-up, die-cut, corrugated pads which formerly covered the entire top and bottom surfaces.

Each of the four pads is custom molded to fit exactly a slightly different-shaped edge of the set. There was every likelihood (and fortunately Admiral realized it in advance) that packaging personnel would confuse the parts and lose time remedying their mistakes. The molder of the foam pads helped Admiral develop a color-coding technique that has solved the problem.

One pad—the lower left—is standard white. The lower right, upper left and upper right are sprinkled, respectively, with expanded pellets of black, red and blue polystyrene. The color-coded pattern of placement can be learned in a moment's time.

A basic advantage of Admiral's use of foam cushioning is that it conforms to small dimensional changes in product size caused in this particular instance by the effect of extreme heat or extreme cold on the sets' molded polypropylene cases.

SUPPLIES AND SERVICES: Polystyrene-foam cushioning by Arvey Corp., 3500 N. Kimball Ave., Chicago 18, using Koppers' F-40 Dylite with colored beads of Dow's Pellaspan.

Candlelight and bourbon

An unusual and intriguing new entry in the distilling industry's annual decanter derby is Stitzel-Weller's decorative glass bottle for Old Fitzgerald bourbon. The one-pint container not only is a replica of an antique candlestick, but can be used as such when the contents are consumed. Brand identity is confined to a removable neck label. The intricately molded bottle is vacuum plated in gleaming gold color for enhanced shelf impact and re-use appeal. A recess molded into the decanter closure's broad, flat-topped surface is just the right size to accept an ordinary candle.

Introduced during the 1961 Christmas selling season, the "candlestick decanter" is packaged in a paperboard carton with a large, die-cut opening—extending across adjacent side panels—that permits maximum visibility of the glass container. A carton insert, formed from the die-cut window area, holds the decanter securely in the center of the carton while providing an attractive background. *Glass decanter designed by Walter Landor & Associates, Design Bldg., Pier 5 North, San Francisco 11, and produced by Owens-Illinois, Toledo 1, O. Plating by MoVac Corp., Morganfield, Ky. Carton by Milprint, 4200 N. Holton St., Milwaukee 1.*

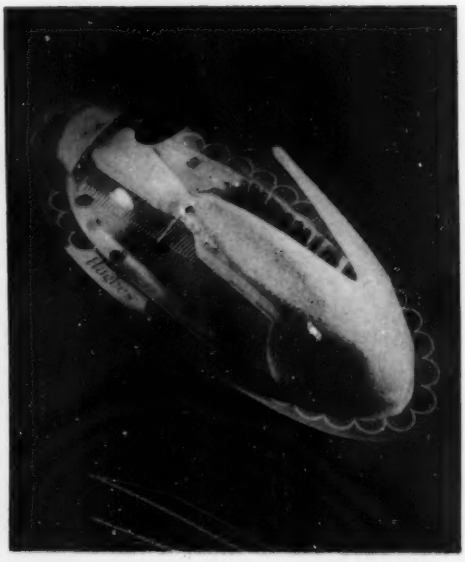
Ideas in Action

Gift-appeal blister pack for J&J brush-and-comb set

Marking an unusual concept in blister packaging, the Tek Hughes Div. of Johnson & Johnson gives decorative gift appeal to an infants' brush-and-comb set by packaging it in a carded cellulose-butyrate bubble formed in the shape of a crouching rabbit. Fuzzy white flocking emphasizes the head, ears and tail of Tek's "blister bunny." The backing card, printed in gay pink and blue on white, is die cut to conform to the shape of the transparent blister.

The brush-and-comb set is attached to the single-thickness backing card with elastic loops. Polyethylene coated on its printed surface, the card is adhered to the flanged butyrate blister in a semi-automatic heat-sealing operation.

Because the item is designed primarily for appeal to gift purchasers, copy on the backing card is confined to the Tek Hughes trade name. Chief design element on the card is a pattern of pink-and-blue polka dots. Price information is contained on an easy-to-remove foil label which is applied by hand to the blisters after the heat-sealing operation. *Package design by Mezey Macowski, Montclair, N. J. Contract packaging and blister fabrication (using Eastman's butyrate) by William A. Crook Co., Watertown, Mass.*



Rotogravure plus flexography

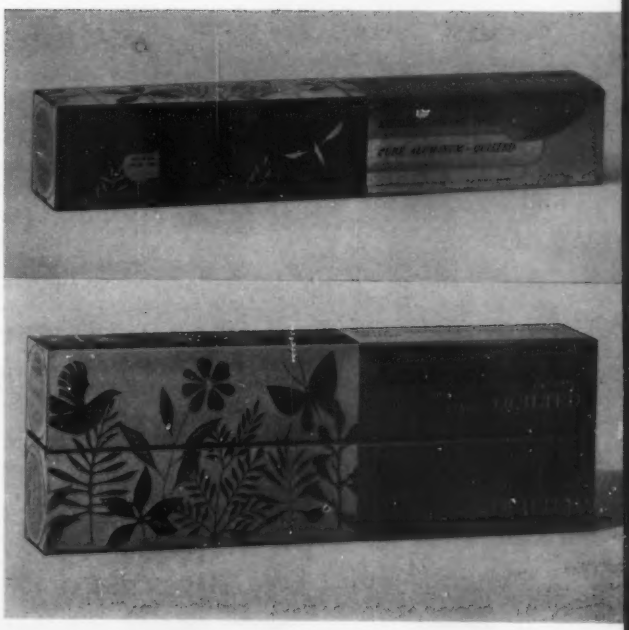
New flexibility and economy in long-run family-design package printing—in which the basic elements remain constant, but copy changes must be made—are suggested by the experience of Booth Fisheries Corp., Chicago. The packager recently decided on a new pictorial overwrap design for its line of frozen seafood in cartons. Involved were 28 different products, for which Booth selected as the basic surface design six appetizing pictorials with accompanying recipes.

The problem: How to produce full-color pictorial rotogravure overwraps, with all the necessary copy changes, without having the cost factor soar out of proportion? The solution: The packager's overwrap supplier installed a quick-change flexographic deck on a six-color rotogravure press. Thus, while process pictorials and other constant elements are printed on roto cylinders, all variable copy is produced by flexographic rubber-plate printing. The effect of this rotogravure/flexography combination, says Booth, has been to simplify what would otherwise be a complex, costly and time-consuming procedure. *Printed overwraps and cartons by American Can's Marathon Div., Menasha, Wis. Design by Robert Sidney Dickens, 908 N. Ernst St., Chicago 11.*

Kaiser goes to glamour

Kaiser Aluminum & Chemical Corp., one of the "big-three" packagers of household foil, makes an honor-winning bid for market dominance with the introduction of bright new carton graphics for a line of quilted cooking foils. The company has abandoned its familiar red-white-and-aluminum design on the theory that it projected an "industrial" appearance not pleasing to the feminine eye. It has been replaced by a delicate floral pattern that is calculated to provide upgraded shelf impact as well as to complement modern kitchen decor. The non-commercial design extends across four panels and occupies about three-fifths of the foil-laminated carton's surface. For display versatility and identification ease, two panels have color-keyed backgrounds (pink for household foil, orange for broiling foil, etc.) and two have black backgrounds, with the design silhouetted in silver.

Brand and product data, including a reproduction of the quilted foil, are sharply separated from the feminine-appeal design. Kaiser reports that the restyled carton has been selected for exhibition by the American Institute of Graphic Arts and by the San Francisco Art Directors Club. *Design by Gould & Associates, 306 N. Doheny Dr., Los Angeles 48.*



GREEN

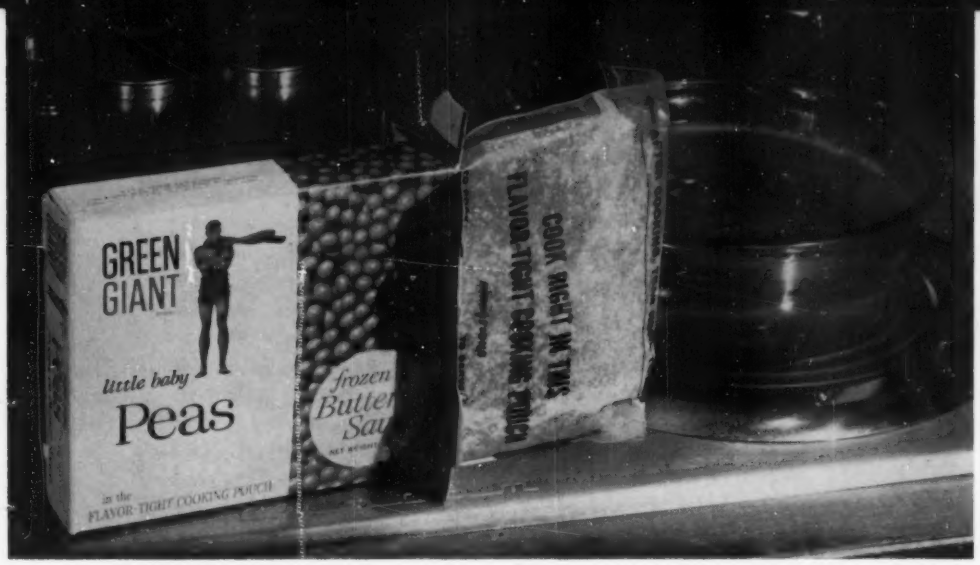
Chilly giant *has been adopted as the trademark symbol for Green Giant's new line of frozen foil-in-bag vegetables. Crimson scarf, clasped arms convey impression of cold. For fast brand recognition, the trademark is otherwise the same as that on company's canned-foods labels.*

A new and potentially important market for boil-in-bag frozen foods opens up with the introduction by Green Giant Co., Le Sueur, Minn., of a line of standard frozen vegetables in 1½-mil polyester-polyethylene bags enclosed in cartons. The development is significant on several counts:

- It marks a radical and doubtless carefully considered packaging departure for a big-name canner of vegetable products which has an industrywide reputation for merchandising sagacity.
- Heretofore, the variety of boil-in-bag foods available to consumers at retail was largely limited to entrees and such specialty vegetables as creamed spinach and asparagus hollandaise. Green Giant's innovation in offering such frozen vegetables as corn, peas, lima beans and cut green beans (unadorned save for the addition of a seasoned butter sauce) in a labor-saving cook-in container may well kick off intensified competition for similar but more conventionally packaged frozen foods.

Green Giant (2,000 employees; $75,000,000 sales) is not, however, curtailing its established canned items. Rather, the company regards the frozen line as a logical extension of present marketing patterns. The company regards the convenience package as a bonus to the consumer—and not the prime reason for buying. This philosophy is clearly evident in the surface design of the wax-coated tuck-style carton in which the bagged vegetables are marketed.

Nowhere on the carton is there a mention of the appeals used by most boil-in-bag packagers—such



Initial products *in the company's frozen-food line are green beans, limas, peas and corn. Carton graphics emphasize flavor appeal rather than the convenience of cook-in packaging.*

GIANT takes a step

Pushing flavor rather than convenience, this big Minnesota canner re-enters the frozen-food field with staple vegetables pre-seasoned in boil-in bags enclosed in conventional cartons

as no messy pans to clean or giving the family a choice of menu items. Green Giant concentrates its package copy on flavor, identifying the bag as a "flavor-tight cooking pouch." Back of the carton points out that "the flavor-tight cooking pouch helps to conserve the garden-fresh color and flavor" of the frozen vegetable enclosed.

The same emphasis is used in advertising. While use of the boil-in bag is demonstrated in TV commercials, newspaper copy is an extension of that on the package. A typical ad reads: "You cook 'em a new way, too. In the flavor-tight cooking pouch that cooks the baby limas right in the sauce. They never touch the water in the pan while cooking. None of the fresh flavor or color is lost."

Green Giant also has cleverly adapted its trademark symbol so that it is expressly suited to the frozen vegetables, yet retains the instant brand recognition built up for the canned line through many years of promotion. For use on the frozen-food carton, the familiar giant has donned a bright crimson scarf and clasps his arms close to his body, instead of holding them aloft as he does on canned-goods labels. This simple device conveys the distinct impression of cold rather than the "sun-ripened warmth" associated with canned vegetables.

(Parenthetically, Green Giant has just completed a full-line redesign project in which the friendly giant has been restyled to give him "a taller, slimmer and more pleasant appearance, thus making him more appealing to the woman shopper." It recalls a similar "modernizing" two years ago when the Underwood Co.'s sinister Red Devil was replaced by a "happy" Satan.*)

Green Giant's packaging indicates the studied caution with which the company is exploring the market for standard vegetables in boil-in bags. The operation is semi-automatic and prefabricated bags are used. Green Giant reports, however, that it will invest in high-speed [*Continued on page 170*]

SUPPLIES AND SERVICES: Reverse-printed polyester-polyethylene bags by Standard Packaging Corp., 200 E. 42 St., New York 17, using Du Pont Mylar. Cartons by American Can's Marathon Div., Menasha, Wis.

*See "A Famous Trademark Gets a Happy New Look," MODERN PACKAGING, Jan., 1960, p. 89.

SUCCESS STORY NO. 11 OF A SERIES

MICRIN Oral Antiseptic

Appeal to sophisticated taste, daring to display a distinctive blue product in a clear glass bottle of beautiful design without a carton, is credited with pushing Johnson & Johnson's Micrin into the runner-up position in the hotly contested mouthwash field in only eight months.

THIS MONTH'S COVER

The setting for our cover illustration was composed by Jack Wolfgang Beck and photographed by Bob Ritta.

Counter units *display the actual bottle. No illustration, no matter how glamorous, apparently, is a substitute for the aesthetic appeal of the handsome container itself.*

In this day of growing sophistication in consumer tastes, the aesthetics of a package destined for mass-market selling cannot be regarded lightly. Surfeited with garish graphics, today's shopper is quickly attracted by the soft sell of a package that is visually pleasing.

An outstanding demonstration of this concept is the spectacular success of Johnson & Johnson's Micrin Oral Antiseptic in its apothecary-style bottle deliberately designed as the sole showcase for the clean, refreshing-looking blue liquid it contains.

Just eight months after national introduction last April, Micrin had become the leading contender in the $72-million mouthwash field, strongly challenging the entrenched leader, Listerine, which for years has claimed more than 50% of the market. In some retail outlets, Micrin actually is reported to be outselling Listerine. And Towne & Oller food-store reports show that ever since Micrin's national introduction, the brand has been among the leading 100 items on health and beauty-aid racks in food stores.

Micrin has been supported by the largest advertising budget put behind any single product in J & J's history, according to a company statement—more than for baby powder and adhesive bandages combined. But this, alone, would not have put it over, the company feels, without the unusual packaging. Here's how it came about.

Like all progressive companies today, J & J is ever on the lookout for new products—not just "me-too" items, but those that offer a definite product improvement. In its research, a new antiseptic was discovered, called "Dequalinium," developed by Allen & Hanbury in England. It was reported to be especially effective because of its "clinging" or adsorptive properties when applied to mucous membranes. J & J obtained exclusive rights to Dequalinium for the U.S. and decided that the best product in which to use it would be in a mouthwash, for two reasons: (1) the big market potential in this field and (2) because no meaningful improvement seemingly had been made in mouthwashes in 30 years.

J & J's product-development staff prepared the formula, conducting extensive consumer-panel tests to determine what flavor would have widest acceptance. Mint won out. Next came the question of color for the liquid. Green, amber and red were familiar colors of estab-

lished, competitive mouthwashes. Blue had rarely before been selected for products used in the mouth, but after long experiment and consumer testing, J & J was convinced that blue would be acceptable.

When it came to selection of a package, the company recognized that it would have to measure up to three criteria. The package would have to (1) express the integrity of the manufacturer, (2) convey to the consumer a pleasing taste and color impression, (3) distinguish the product as representing a genuine advance in antiseptics.

The working concept was a Boston round with a beautiful ground-glass stopper. But a ground-glass stopper would have been impractical for mass production. At this stage, J & J took the bottle to its package designer with the request that he translate the aesthetic feeling of this container into a practical mass-production package.

The designer's first suggestion was to change the shape to an oval, thereby getting rid of the horizontal foreshortening of the round surface to provide broader label space. Two debossed areas were incorporated in the private mold: one rectangular for the primary product label, letterpress printed with a double border of metallic gold and dignified lettering in black and blue to complement the blue liquid; the other a small oval toward the bottom of the bottle for a paper label which repeats the double gold border of the primary label and features a stylized silhouette of a mortar and pestle in combination with an abstract letter "D" to stress Dequalinium.

A remarkable representation of a ground-glass stopper was obtained by designing an injection-molded screw cap of translucent polypropylene, the tough, inert new plastic that could be molded to produce fine-detail fluting and the wide overhanging top flange.

The simplicity of the aesthetic concept is unmarred by descriptive and mandatory copy, which is printed on the back of the primary label, legible through the clear-glass bottle and blue liquid.

Initially two sizes of Micrin—7 oz. and 14 oz.—were marketed in individual cartons, completely concealing the beautiful container.

During the initial test period, when a leading San Francisco retailer saw the packages, he said: "I'm going to take all of the bottles out of the cartons. They are too beautiful to cover up."

But somehow his direction did not get through to the stock boys and Micrin went to his store shelves in the cartons. Immediately he discovered this, he had the cartons removed. It was a lucky mistake. The San Francisco dealer had a comparison of sales with and without the cartons. The difference was so amazing that J & J conducted controlled market tests in other test cities, all of which corroborated the superior selling power of the bottle without the carton.

The result: Micrin went nationwide without the carton—relying almost entirely on the pulling power of the clear bottle.

The aesthetic appeal of this beautiful package has been acclaimed across the nation and around the world. Micrin was a winner in the 1961 *Variety Store Merchandiser* packaging competition; it will be exhibited among the best packages of 1961 selected by the American Institute of Graphic Arts and it was one of three American packages singled out by the American Society of Industrial Designers for the international designers' exhibition in Venice last September.

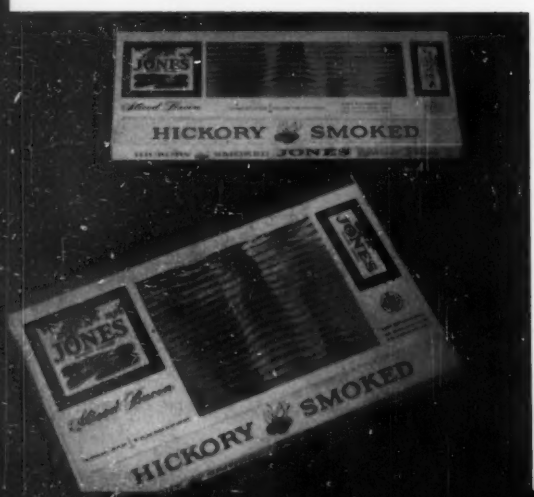
SUPPLIES AND SERVICES: Design by Donald Deskey Associates, New York 22. Bottles by Armstrong Cork, Lancaster, Pa.; Brockway Glass, Brockway, Pa.; Carr-Lowrey Glass, Baltimore 30, and Wheaton Glass, Millville, N.J. Closures by Gibson Associates, Cranford, N.J.; Mack Molding, Wayne, N.J., and Heekin Can's Pittsburgh Plastics Div., New Castle, Pa.

PACKAGING PAGEANT

Parker Pen Co. combines two merchandising ideas in one: a carded, rack-hanging blister pack containing its T-Ball Jotter pen and a gift carton sealed inside the blister for the consumer to remove and use when presenting the pen as a gift. Thus, gift appeal is added to a package form designed for normal rack-hanging self-selection. The gift carton carries only the Parker name and trademark. It is sealed in a butyrate blister with the pen. Package, Gilman Engineering & Mfg.'s Pan-O-Ramic Packaging, Janesville, Wis.

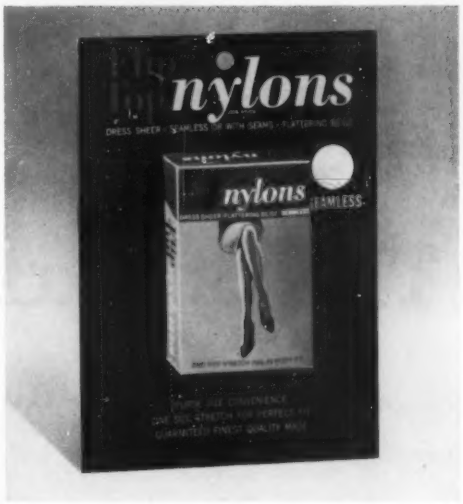
The neat, tailored put-up that can be obtained with shrink-film wraps is illustrated by an assortment of ribbons and bows in Wm. E. Wright & Sons' 1961 Holiday Gift Tie line. A printed and die-cut paperboard tray, holding two spools of ribbon at each end and six ribbon bows in the center, is wrapped in irradiated biaxially oriented polyethylene shrink film to form a neat, wrinkle-free contoured pack. Shrink film, W. R. Grace's Cryovac Div., Cambridge, Mass.

Pickles packed in flexible film are not new—but the innovation here is the use of green-tinted film on the face of this pouch in which Woodburn Enterprises, Inc., markets dill pickles in pairs. The green color is designed to enhance package appearance and is reported to aid in preventing the dills from turning white. Two kinds of dill pickles, regular and kosher, are merchandised in the tinted heat-sealed pouch formed of cellophane/polyethylene. "Durafilm" pouch, Dow's Dobeckmun Div., Cleveland.

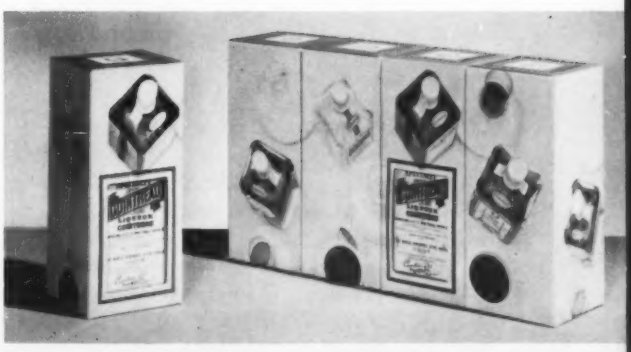


Jones Dairy Farm's hickory-smoked bacon is now put up in five-color-offset, sealed-end window cartons made of 0.16 solid bleached sulphate. Adoption of this improved package, which opens easily and recloses tightly, necessitated complete revamping of the company's over-all bacon-packaging system and includes a new compact bacon-cartoning machine adaptable to the plant's operation and floor layout. The cartoner features a double hopper, to accommodate two lines if scheduling so requires, and quick change-over for 1-lb. to ½-lb. packaging. Carton, Container Corp. of America, Chicago. CCA cartoner developed by Container Corp. in cooperation with Thiele Packaging Machinery, Hopkins, Minn. Surface design, R. Sidney Dickens Associates, Chicago.

An appropriate package for Maidenform's new "Sweet Dreams" sleeping bra is this small pink plastic "bolster pillow" container. The convolute-wound tube, 6 in. long and 2½ in. in diameter, is formed of 0.0075-gauge pink translucent acetate printed in deep pink and white. Circular paperboard disks in matching pink fit into the beaded edges of the tube. Quatrefoil die cuts in the disk enable the package to be easily opened for product inspection by a pull of the tassel. The disk can be re-inserted without damage to either container or closure. The counter display is a reproduction of a 19th century brass bed. Container, J-E Plastics Mfg., Yonkers, N. Y., using Celanese acetate.



Glen Raven Knitting Mills' nylon hosiery in a small purse-sized flip-top box are enclosed in a combination stretchable-film/paperboard display package calculated to add the bulk that discourages pilferage and to permit rack merchandising. The construction differs from most stretchable card packs in that the die-cut opening is only in the face side of the paperboard card, leaving a solid back panel for printed sell copy. A strip of polyvinyl chloride film is vacuum formed into a loose pocket, into which the flip-top box is placed. The card is then folded along a central crease and the two halves dielectrically sealed together. The sealed package is conveyed past heating units that activate the plastic memory of the film, causing it to shrink tightly around the product. "Stretch-Pak" by The Nevins Co., Clifton, N. J., using Goodyear Tire & Rubber's 0.003-in. Vitafilm D-80.

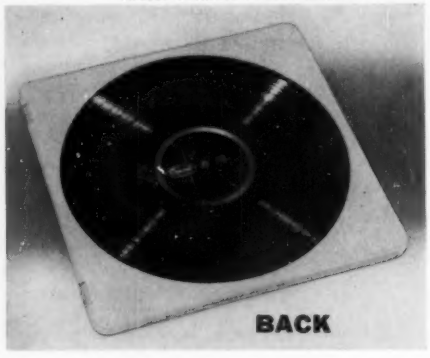


The problem: a single carton design that could be used for 20 different liqueurs in the Cointreau line. The solution: a window carton that is decorative and dramatic, yet harmonizes and complements the various bottle labels visible through the die-cut window. A different liqueur bottle is pictured in soft focus on each panel to point up the variety in the line, while the brand label itself is given front stage. The cartons have holiday gift appeal without being limited to seasonal sale. The carton's other reported advantages: low cost, automatic loading and easy handling. Carton and design, Warner Bros. Co., Bridgeport, Conn.

Five different shades of pressed-powder eye shadow are combined by Lanolin Plus in a single compact—a new concept in cosmetics merchandising. The "Shadow Plus" compact is molded of polypropylene in a slim, elegant design with a pearlized finish and is very light weight. The insert, also molded of polypropylene, has five circular openings, into which the five pans of eye shadow fit. New "Powder Plus" is put up in a similar type of compact. Die-cut window cartons display the compacts. Compact molded by Harrison Co., Long Island City, N. Y.

Album face *(left) has narrow rim of opaque polypropylene, gives nearly 100% visibility to record and libretto through polystyrene inset. Back of album (below) displays second side through a circle of polystyrene set into polypropylene frame. The entire label may be read without having to open the plastic package.*

PHOTOS COURTESY CAPITOL RECORDS.



The package that waited

Designed several years ago, but shelved on cost, Capitol's plastic album became practical with the advent of polypropylene for molding an integrally hinged frame inset with transparent polystyrene

This is the story of a packaging idea that was ahead of its time. The material to make the idea practical didn't exist several years ago. But when the material—polypropylene—did arrive, the design was ready, as was a new product that could take full advantage of fortuitous timing.

The package is an all-plastic record album. The product is a series of ultra-fidelity stereo recordings said to represent a major technical achievement. The company that had a frustrated packaging idea is Capitol Records, Hollywood, Calif. (2,250 employees, $50,000,000 sales).

Gone from this album's cover are the glamour girls and striking full-color photography now so familiar to LP record buyers. Instead, the record itself is showcased—through transparent polystyrene set in an opaque polypropylene frame with an integral hinge, this being one of the first commercial applications of polypropylene for this predicted packaging use in pinless hinges. A unique quality of polypropylene is its ability to withstand thousands of flexes without weakening.

The package

The album's one-piece frame is injection molded of dove-gray polypropylene with front and back insets of clear polystyrene. The whole snaps together to produce an unbreakable, virtually dustproof package to protect the record during shipment, at the retail outlet and in use. The effect is one of quality and dignity, yet the package gains warmth and color through a colorfully printed libretto also visible through the polystyrene cover.

Other plastic albums have been tried and found wanting. Capitol had long considered such an album the solution to the acute problems of record abrasion, dust and label visibility. Several years ago the company's national merchandising development

manager, Frederick H. Rice, designed a prototype. The project progressed as far as a handmade model, with patents applied for and tooling costs obtained. But no plastic material was then available that Capitol thought could do the job at an acceptable price. Each year the project was re-appraised and reluctantly shelved. Then polypropylene came along.

The material

This thermoplastic's light weight and its yield per pound (greater than that of any other thermoplastic) helps to keep costs in line. Its tensile strength, scratch resistance and gloss are considered excellent and it is compatible with the vinyl records. Most important, however, is the fact that it eliminated the need for an added hinge.

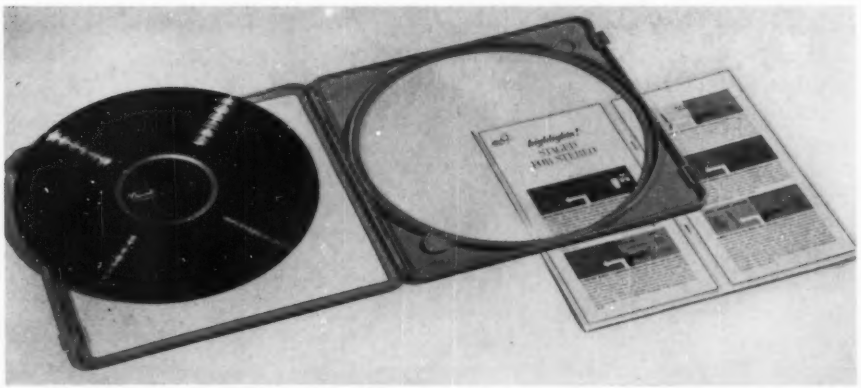
The all-plastic album became market worthy at a salutary moment—just as Capitol was to release five stereo demonstration records with what is said to be unusually brilliant sound. The new album seemed ideal to dramatize the new sound series. With heavy investment in advanced transferring and pressing techniques, Capitol didn't want its new "Staged for Stereo" series in inadequate jackets.

While it will probably never be used for garden-variety single releases, Capitol plans to employ the new album extensively for future prestige recordings, varying the color of the polypropylene frames to give each release some individuality.

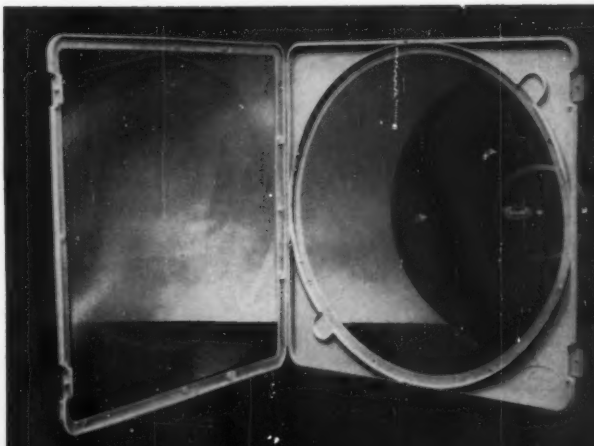
The face portion of the polypropylene frame consists of a narrow border into which are molded seats for two integral locks on the right-hand side. Two nibs snap into holes on the frame's back for additional dust protection and undercuts hold the square-shaped polystyrene face inset in place. Since the polypropylene portion of the album face is only about ½ in. wide on each side, nearly 100% visibility is provided for [*Continued on page 171*]

SUPPLIES AND SERVICES: Injection-molded album by Creative Packaging's Diamond Plastics Industries Div., 4411 Hollins Rd., N. E., Roanoke, using Hercules polypropylene and polystyrene by Dow and Monsanto.

for a material

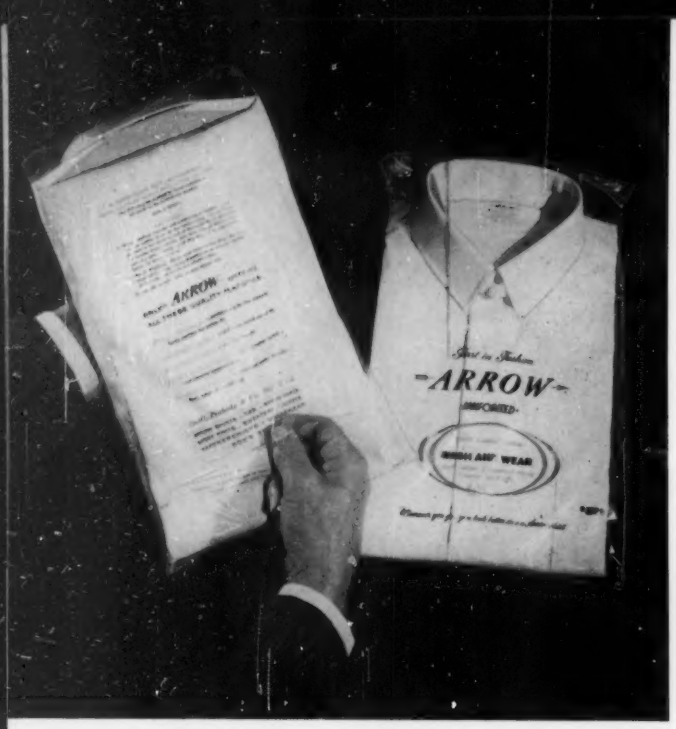


Inner view *shows complexity of the molding job. Note integral hinges, snap locks and snap lugs on the polypropylene frame.*



Rigidity *of polypropylene frame, clarity of polystyrene insets and texture of corner areas enhance the prestige quality of the album.*

POUCH PACKER



Neatly sealed pouches *of polyethylene film make a good merchandising appearance and keep shirts clean over long shelf life. Small perforated line on back of package, added during printing and broken by the customer, permits feeling of the material, yet keeps the pouch otherwise intact.*

While packagers of most products have eagerly sought production mechanization, the soft-goods field, in general, has resisted change. But no longer. Faced with low-priced imports and mounting costs, domestic clothing manufacturers are scrambling for automatic packaging machinery to cut costs.

Nowhere is this more evident than at the vast Troy, N.Y., plant of Cluett, Peabody & Co., Inc., maker of Arrow shirts, where a broad program of packaging mechanization is now being launched.

First tangible result is a new pneumatic pouch-packaging machine for shirts that operates with roll-fed polyethylene film and has already more than doubled output per manhour by replacing a whole battery of hand-loaded bagging machines. Eventually, two of these automatic units, each serviced by one operator, will replace 10 hand baggers, each requiring two operators—for a tenfold gain in output per manhour. Furthermore, a study is being made of fully automatic feed equipment to replace the present one-operator semi-automatic feed.

The first of the new bagging machines has just completed successfully its shakedown period at this company (7,000 employees, $65,000,000 gross), where it achieved an output of 32 packages per minute. Its ability to form unusually large gusseted pouches and to handle bulky and difficult products may have significance for many other packagers.

Pouch-packaging action

At Cluett, Peabody, the new intermittent-action packager operates from a single 33½-in. web of low-density, flexographically printed, 1¼-mil polyethylene film. The final heat-sealed pouch, measuring 9¼ by 14¼ in. with a 1-in. gusset, accommodates all sizes of Arrow shirts. To make a pouch, the film web is folded in half around a plow in a vertical plane—a technique used previously only on powder and liquid packagers for small pouches. But from there on, the mechanics are different.

The folded band of film is moved through the machine with the aid of four tapes interleaved with the two edges of the film. Since the pouches are formed and filled upside down, these tapes grip what is actually the bottom of the pouch. They provide stiffness and a gripping surface for mechanical clamps that actually move the web.

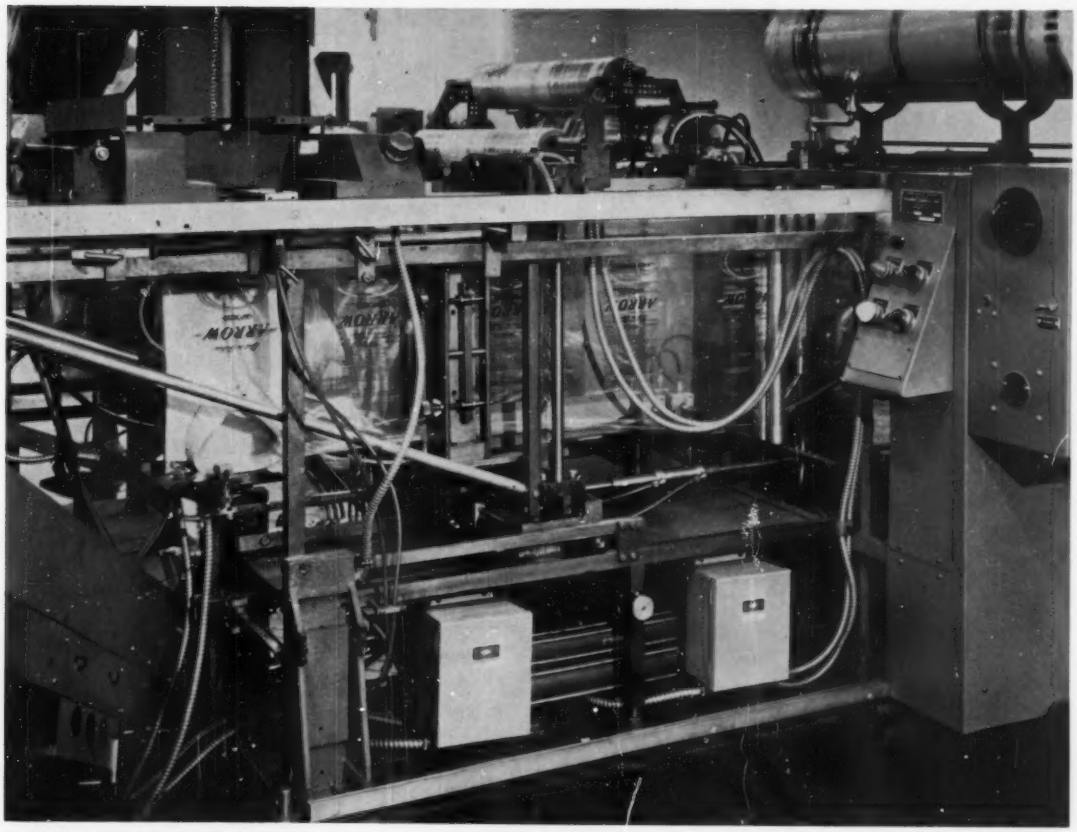
Heat sealers, electric-eye registration and a pair of web clamps are mounted on a traveling beam assembly activated by a pneumatic piston. When the beam moves forward, the clamps pull the film through the package-forming stations to the filling position. On the return cycle, the web is transferred to and held stationary by a second set of clamps independently mounted on the machine frame.

Registration of the printed film is accomplished by an ingenious auxiliary pneumatic system that compensates for stretching or unequal printing of the thermoplastic film. The traveling beam is set to underfeed the film slightly. When the photo-eye drifts off a printed spot on the film, it triggers a supplementary air piston which kicks the main drive piston ahead by $\frac{1}{16}$ in., thus restoring registration.

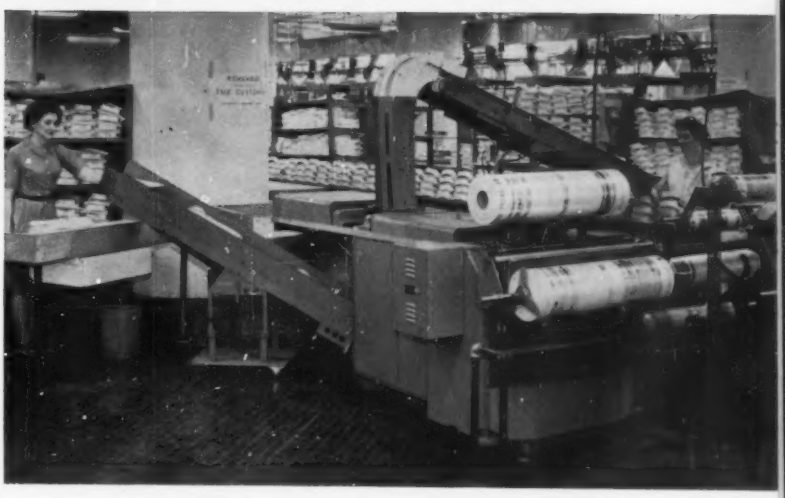
As the beam clamps pull the film from the plow, two packaging operations take place. First, a double punch, actuated by other pneumatic pistons, cuts two air holes in the botton of the web to prevent pillowing of the final package and thus save space in shipping cartons. Next, fixed plows gusset the folded portion of the web (top of the bag) to make

FOR SOFT GOODS

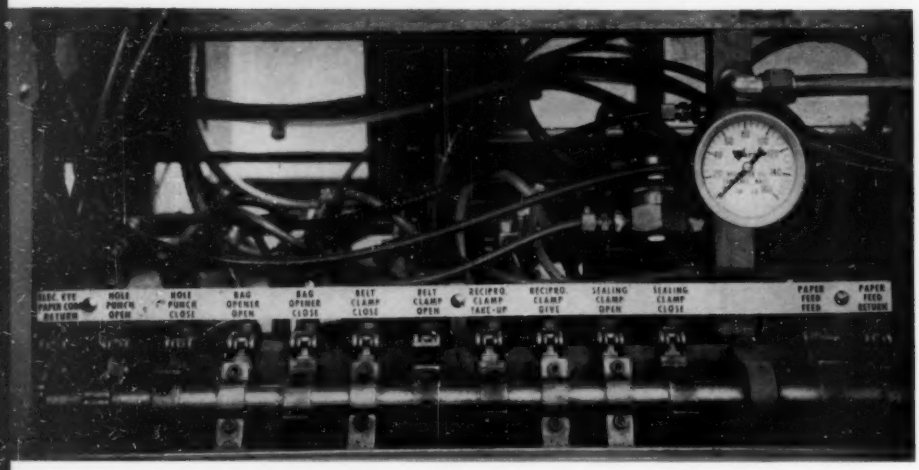
In a switch to automatic packaging from hand methods traditional in its field, Cluett, Peabody launches a drive for mechanization with a new horizontal unit that will speed polyethylene pouching of Arrow shirts 900%



Roll-fed packager *at Cluett, Peabody's Troy, N. Y., plant. The way it works is disclosed by removing guard panels, revealing web-folding plows (right). Film punches (right center) and vertical heat-sealing bar (center) are activated as an overhead traveling beam pulls film toward filling station (left). Shirts drop into opened pouches from feed belt via chute (see top left).*



Automatic bagger *replaces five hand loaders formerly required. Even with two operators, this unit has more than doubled manhour output. When a second unit and the take-off and conveying equipment are added, output will jump 10 times with one operator per machine.*



Unusual control *for all pneumatic machine actions is this long cam shaft, turned by a 72-r.p.m. synchronous motor (out of sight at left). Two adjustable cams and switches are employed to trigger and recycle each air piston.*

extra room for the shirt collar, which is stiffened with paperboard to prevent crushing.

The web is severed into individual pouches by a vertical impulse heat sealer, which is equipped with a cold-wire cut-off, and the open-top bag is then finally pulled into proper loading position.

Special two-speed feeder

The product feed is automatically governed to prevent jams. Hand loaded from a main product conveyor, the feed belt operates with intermittent action and has two drives that run at different speeds. When the machine is first started, an independent motor drives the belt at 25 shirts per minute to start the packaging action. Once pouch packaging is under way, the drive shifts to a 32-per-minute air piston which is activated from the main cam shaft of the pouch packer and is governed by a photo-eye detector at the bag-filling station. The feed belt has a 20-in. stroke and the operator simply places the shirts in line with a mark at the edge of the conveyor to index them. If the supply of shirts lags and the belt is not filled, limit switches on the belt shift back to the slower motor drive.

At the end of the feed conveyor, shirts drop into the pouches, which are promptly sealed by a second impulse-heating bar. A cold-wire cut-off trims the top of the bag and drops the completed pouch onto an exit conveyor. Waste from the top of the bag is fed to a collecting drum. At present, a second operator cartons the shirts for shipment. But soon a long take-away conveyor will be installed to carry packaged shirts to the shipping area, where new cartoning machinery will handle the job automatically.

Though the packaging machine is pneumatic in operation, the control system is an electro-mechanical device of unusual design. Located at the bottom of the machine is a 72-r.p.m. synchronous motor turning a long cam shaft. Reminiscent of the action of a Swiss music box, adjustable cams closely spaced along this shaft trigger a series of poppet valves to activate the pneumatic pistons that perform the actual packaging operations.

The film feed is another unusual electro-mechanical component. To insure light but firm tension on the film, the machine has a dancer roll equipped with a mercury switch. As film is drawn in, this roll rises, finally closing the switch and starting a power wheel that unwinds more film through frictional contact with the dancer roll.

The completed packages are neat and trim with fine-line heat seals on three sides. Though the package is completely closed to keep the shirts clean and neat throughout the sales life, provision has been made for consumers to feel the texture of the material if they desire. During printing, a short perforated line is so positioned that it appears at the bottom of the pouch's reverse side. Simple thumb pressure will break this line and afford access to the bag, yet the pouch is kept intact in case the customer does not buy the shirt. Cluett, Peabody prefers this device to the fold-over bag widely used to permit manual inspection of soft goods.

Since this company uses only one size of pouch, it has not been able to test fully the flexibility of its new machine. But the unit is said to be readily changed for a wide range of pouch sizes and, therefore, affords interesting possibilities for the packaging of many difficult and bulky products, such as other textile goods, toys and hardware.

SUPPLIES AND SERVICES: Model 34 all-purpose wrapper by Stephen Bodolay, Inc., Springfield 8, Mass. Printed and perforated film by Action Bag & Envelope Co., 667 Atkins Ave., Brooklyn 8.

SPECIAL EDITORIAL REPORT

'Deception' law comes closer

Consumer-packager comments at third round of Senate hearings are overshadowed by Senator Hart's call for new legislation 'to correct packaging and labeling abuses'

The case is still being tried, but the verdict is in. Consumer-goods packagers must now accept the fact that legislation will be proposed in the Congress with the aim of curbing so-called "deceptive" practices in packaging and labeling, currently under investigation by the Senate Antitrust & Monopoly Subcommittee. Long suspected, this intent was made unmistakably clear by the man who is in charge of the probe, Sen. Philip A. Hart (D., Mich.), well in advance of the third round of subcommittee hearings held in Washington, on Dec. 14 and 15.

Said the Senator in a preliminary announcement: "I am now convinced that present laws and regulations cannot adequately deal with the situation which has been uncovered. The testimony and evidence already presented [ED. NOTE: *at two previous hearings, by 18 witnesses, none of whom was a representative of a consumer-goods packaging firm*] show that the techniques used in packaging are too subtle, while the guides and standards which have been set up are too ambiguous. Still ahead is the determination of appropriate legislation to deal with this problem . . ."

As it turned out, the Senator's sally was the keynote of the latest two days of hearings, which produced none of the expected fireworks. For the most part, the testimony of four of the five witnesses (two consumer-goods packager representatives, an executive of a major package-supplying company, a designer and a history professor) proved to be a resigned recital of earlier factual defenses and explanations of packaging practices branded as deceptive – defenses and explanations presented first in a prepared statement to the subcommittee by the editor of MODERN PACKAGING* and by witnesses at the second hearing in October.

Just as doggedly, Sen. Hart and his subcommittee counselors sniped away at such favorite targets as slack fill, inconspicuous contents data, "meaningless" size terminology and weight variation among competing products in similar-sized containers.

Perhaps the best expression of the subcommittee's driving desire to force legislation came from Sen. Hart himself, after a statement in defense of current packaging practices by Harrison F. Dunning, executive vice president of the Scott Paper Co. Mr. Dunning quoted statistics proving that the American consumer spends a far smaller percentage of income on food than do consumers in any other country in the world. "Nifty as it is," smiled the Senator, "can't it be made better?"

BENI PHOTO

First packager witness *since Senate hearings into "deceptive" packaging began was Harrison F. Dunning of Scott Paper Co. Here he displays one of his company's packages to show the impossibility of requiring contents data to appear on the top third of the label facing.*

Interestingly, three of the witnesses took pains to point out that the subcommittee has accomplished its purpose merely by alerting manufacturers to the fact that some of their packages could possibly be considered as deceptive, thereby prompting corporate review of their present packaging and labeling practices.

Sen. Hart's remarks

The two-day December hearing opened with a statement by Sen. Hart in which he reiterated his contention that existing laws and regulations "are not adequate to correct the packaging and labeling abuses presented to this subcommittee." The Senator added that definitive standards for packaging appear to be necessary, but he also noted that "the problem is to develop such standards without at the same time straight-jacketing industry; to combine legislative certainty without sacrificing industry flexibility and initiative."

Sen. Hart then summarized 12 recommendations for

*See: "Statement by Lloyd Stouffer, Editor of MODERN PACKAGING, to the Senate Committee," MODERN PACKAGING, Aug., 1961, p. 110D, and articles in succeeding issues.

HUNT PHOTO

Senator Hart on likely legislation

In his opening remarks at the resumption of the Senate hearings into "deceptive" packaging and labeling, Sen. Philip A. Hart summarized 12 recommendations for regulatory legislation. He emphasized that the list "does not necessarily represent either my own thinking or the thinking of other members of the subcommittee." Nevertheless, it is noteworthy that all 12 recommendations have come up repeatedly in subcommittee questioning of witnesses at each of the last two hearings. Thus, they give an indication of the lines along which proposed legislation will be drawn.

Following are Senator Hart's recommendations:

- Require weight and/or content unit information to be broken down into ounces and placed in contrasting colors at a designated place on the face of the package, in a size proportional to the size of the container.
- Require information on ingredients of the product to be positioned at a designated place on the package.
- Establish, with industry assistance, slack-fill standards, where practicable.
- Abolish such "meaningless" qualifying phrases as super, economy, giant, requiring instead that content be designated only by weight or other meaningful unit information. Allow as an exception the establishment of such standards as small, medium and large.
- Require some form of standardization of weight or sizes, where practicable.
- In product lines where servings are the essential information on use of the product, establish uniform serving units.
- Require packaging weights to the lowest full ounce, thereby doing away with fractional-ounce designations.
- Where weight is not the primary unit of efficiency, require the most meaningful unit (such as number of servings or washes) to appear on the package as well.
- Require package size to be reasonably related to volume, where practicable.
- Control the proportions of packages, so as not to be misleading.
- Regulate or prohibit package promotions which may be subject to possible abuse, such as "cents-off" deals.
- Require price per ounce or unit measurement to be placed on the label.

regulatory legislation based on exchanges with witnesses at the previous hearings (see above).

Concluding his remarks, the Senator labeled as "straw men" two blanket defenses of packaging practices which have appeared in this magazine and elsewhere:

The consumer is too smart to be fooled more than once. Sen. Hart's comment on this: "Consumer intelligence is not at issue in this inquiry. The right to essential information is."

Present packaging practices, sizes, etc., are what the consumer really wants. To this, Sen. Hart's comment was: "It is hard to understand how many witnesses have presumed to put these words into the mouths of the consumers when from the consumer's own mouth comes a different story."

Packager witnesses

Such was the note on which Scott Paper's Harrison Dunning was invited to deliver his statement as first witness at the December hearing.

Mr. Dunning ticked off the valid technical obstacles to "slack-fill" legislation, rigid placement of contents data, servings standards, regulation of container size and similar proposals that had been made both to and by the subcommittee. On the much belabored matter of slack fill of dry products in cartons, for example, he pointed out that the simple economics of materials and shipment force manufacturers to keep packages at minimum size so that total costs will be as low as possible.

Noting that there are a few sharp operators in the packaging field, as in any industry, Mr. Dunning said: "I am also convinced that these people get their comeuppance pretty rapidly from the most knowledgeable comptrollers of the household currency that ever existed. A manufacturer's whole success is based upon pleasing the 50 million housewives who do the family shopping and if he doesn't play square with the housewife, if he deceives the housewife as to contents, as to ingredients, as to quality or as to value, she levies her judgment daily upon him and he suffers the consequences."

In answer to a question from Sen. Hart on the importance of making price per ounce easier to calculate, Mr. Dunning observed: "If you go into any store in the country, you will find that the best value is the number-one seller." Later, he added that the subcommittee's emphasis on price per unit suggests that price is the only yardstick of a purchase. "I don't think," he said, "it is fair to encourage consumers to make price the sole basis of the buying decision."

The only other consumer-packager representative to testify at this hearing was Ellen-Ann Dunham, vice president of General Foods in charge of General Foods Kitchens. Miss Dunham began by stating GF's belief that "these hearings have had a beneficial effect and are in the public interest." She noted, however, that while some 16 million packages of GF products are purchased

daily, "we get fewer than five letters of complaint a day, on the average, with respect to packages. By and large, these are understanding letters which show clearly that consumers realize that men and machines can and do make occasional errors."

Miss Dunham told the subcommittee that the investigation had caused GF to take another look at all packages and labels. "Your inquiry," she said, "also prompted our management to reiterate forcefully — and in writing — to all our operating people the company's requirements that net contents be clearly, prominently and conspicuously shown on the package in a position where it is not obscured or crowded by other copy; that lettering be in good color contrast; that the package carry all required information so that it can be readily found and easily read by interested consumers; that all copy be accurate and understandable; that the quantity of the product in the package be controlled to meet accurately the stated contents and be in compliance with applicable laws and regulations."

Miss Dunham then characterized as "restrictive" any proposals that would legislate slack fill, standards of nomenclature, qualifying size phrases and cents-off deals, and similar promotions.

"We at General Foods," Miss Dunham said, "trust that any proposed legislation will be considered carefully from the standpoint of how it might restrict freedom of choice in the marketplace and we are confident that the subcommittee will consider all proposals that come before it with *all* the consumers in mind and with the long-range view of not legislating today what might impair economic freedom and progress tomorrow."

Other witnesses' views

ROGER V. WILSON, *general manager of customer research, Metal Div., Continental Can Co.* Mr. Wilson (who was accompanied by representatives of the company's plastics, glass and paperboard operations) discussed the technical and economic factors that govern the selection and construction of a package. "Packaging is not a simple art," he told the subcommittee. "A manufacturer does not and cannot just grab the nearest convenient container and dump his product into it. On the contrary, the process is an extremely complicated one and one in which the right choice must be made, or the ultimate purchaser will have an unsatisfactory product."

Mr. Wilson disposed of "slack fill" in a few words: "Sometimes, I am afraid, this misleading term has been used with the deliberate intent to mislead. In every filled container, there must be a certain amount of empty space. This is axiomatic and indisputable. It is not possible to close the container without it. How much head space there must be varies greatly with the type of product, the type of container and the economics of the filling room." He pointed out to the subcommittee that discussions of so-called slack fill "make very little sense unless discussed in terms of a specific product packaged under specified conditions."

Commenting on the oft-repeated accusation that poor packages tend to drive the good ones out of the market, Mr. Wilson contended that the opposite is true. "Most packagers today have extremely high standards of quality control," he said. "Their good name depends upon the maintenance of these controls and they cannot be maintained with inadequate packages. The package which the packer selects tends to be the one which will most economically and most effectively deliver his product to the purchaser in the most satisfactory condition. The result is, I believe, that the *good* package forces the *poorer* one out of the market."

Mr. Wilson noted that competition is leading to greater improvements in the packaging field. "I suggest it be left to continue that development," he said.

SAUL BASS, *president, Saul Bass & Associates,* branded as "hog wash" testimony given at earlier hearings to the effect that packagers use "Svengali-like" techniques of persuasion to sell their goods.

"We surely know," he said, "that the manufacturer's position in the supermarket is not that of the itinerant medicine show which sells the elixir, folds its tent and gets out of town — fast. I must strongly support the position of those who have stated before this committee that the repeat sale is the basis of continuity of existence for the manufacturer. He cannot afford negative feedback if he wishes to survive."

Mr. Bass also told the subcommittee that packagers enlist the services of a design firm not for the purpose of glamorizing inferior merchandise or obscuring a product's true worth, but because they realize that in today's highly competitive market even the highest-quality products require an attractive and sales-compelling container. As other witnesses have said before him, Mr. Bass commended the investigation for its role in alerting manufacturers to the need for constant revaluation of their packaging and labeling practices.

CARROLL QUIGLEY, *professor of history, Georgetown University:* In a remarkable display of mental gymnastics, Prof. Quigley drew a parallel between the "ambiguity and dishonesty which people obtain from widespread mislabeling" and the downfall of once-powerful civilizations. From ancient times to the present,

General Foods' views *were expressed by Ellen-Ann Dunham, vice president in charge of GF Kitchens. She cautioned against legislation having the effect of restricting competitive enterprise.*

Two who testified *meet at doorway of hearing room. They are Roger Wilson (left) of Continental Can and Harrison Dunning of Scott Paper. Both issued strong defenses and explanations of current packaging practices.*

he said, "the truth of written labels has often provided a fair indication of the moral health of a society." Prof. Quigley concluded that honest labeling "contributes to clarity of thought and keeps a society's moral tone higher, while it brings the members closer to reality."

The two-day December hearing ended with Sen. Hart placing into the record a statement made at the fifth annual educational conference of the Food & Drug Administration and the Food Law Institute by Persia Campbell, chairman of the Queens College Department of Economics. Dr. Campbell (a board member of the Consumers Union and a highly vocal witness at the consumer-oriented first Senate hearing which was held last June) strongly urged that the consideration of any new packaging legislation be drawn up through negotiation between packagers and Government.

The next round of Senate hearings into packaging and labeling is scheduled for the first week in February. Other manufacturers of supermarket products will be heard at that time, says Sen. Hart.

More industry opinions

All the news in "deceptive" packaging is not being made behind the doors of a meeting room in the Senate Office Building. The Hart investigation and the problems it presents to packagers were the subjects of much comment at the recent annual meeting of the Grocery Mfrs. of America, whose member companies produce many of the packaged products now under attack.

Paul S. Willis, president of GMA (and a witness at the October hearing of the Senate's Antitrust & Monopoly Subcommittee), in his address of welcome set the theme of the meeting: *The food industry — its contributions and continuing public responsibilities.* Noting that food prices today are no higher than they were in 1952, despite a 12% rise in the over-all cost-of-living index, Mr. Willis said: "We consider it essential to present this program in view of the recent criticisms which have been falsely directed at the industry, presumably because of existing misinformation or lack of understanding of why manufacturers do certain things."

James D. North, vice president of General Foods, said that many claims of packaging deception are due to a lack of understanding by consumers. He cited as one example instant mashed potatoes, packaged in an airtight pouch which is then, for obvious marketing reasons, placed in a carton. Said Mr. North: "Needless to say, the carton shape does not conform to that of the pouch and, we hope it would also be needless to say, no deception is intended or involved."

The Senate hearings came under attack from Ralph R. Brubaker, vice president of the Carnation Co., who told GMA members: "Holding no brief for so-called 'economic cheats' — if and when they are proved to exist — I believe our industry richly deserves an end to the undermining of public confidence through ill-advised, politically inspired harassment of its vast majority of honest, law-abiding businessmen and citizens."

Mrs. Helen Britt, director of home economics for The Nestlé Co., asked for recognition of the fact that "no one package or one product will please everybody. Not only is there a different market for each product; there also is a different market for each package."

George W. Jenkins, president of the Super Market Institute, expressed the hope that the present Senate investigation would lead to a general corporate review of present packaging and labeling practices, as well as to intensified consumer education, so that packagers will not again be forced into the position of having to defend themselves against attack.

F&DA activities

Meanwhile, the Food & Drug Administration continues its stepped-up campaign to enforce more strictly the packaging and labeling clauses of the Federal Food, Drug & Cosmetic Act. The agency has in recent weeks made four more seizures of packaged-goods shipments on the ground of "inconspicuous labeling." In each instance, seizure was made on the charge that label information which is required by law either could not be read or was difficult to read "under customary conditions of purchase or use."

F&DA also is reported to be weighing the possibility of conducting a comprehensive survey of proprietary drug and cosmetic labeling — to determine the conspicuousness and adequacy of directions and warnings on container labels. Earlier in 1961 F&DA issued a regulation (to become effective in March) requiring fully descriptive package inserts, including warning or cautioning data, for all prescription drugs.

Finally, the agency has not abandoned its attempt to get a court victory in the celebrated Delson Thin Mints case. Last June 26 the United States District Court in New Jersey re-affirmed its original findings that the spacers and hollow ends in the Delson carton were not deceptive — after F&DA had won an apparent victory over Delson in the Third Circuit Court of Appeals in Philadelphia. Now, however, the Food & Drug Administration is taking legal steps toward presenting another appeal to the latter court. Anticipated delays will postpone a decision on this case until at least mid-summer, MODERN PACKAGING has been told by a representative of the United States Attorney General's office.

Knox Glass gives us eye appeal, ruggedness and good delivery, says major pickle packer

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"Seventy percent of the glass we use is made by Knox. And nine of the 13 different sizes and shapes of jars we use are private molds—designed exclusively for us by Knox Glass.

"Our operation demands top quality glass. The jars must be rugged enough to stand the stress and strain that results from temperature changes during pasteurization and from the twisting of the capping operation. We have no problem with breakage. Knox also gives us excellent delivery."

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*Name available on request

the new / **KNOX GLASS**

PIN-POINT IMPRINTING

Fast machines, incorporating miniaturized imprinters, solve Avon's problems of spotting product identification on fancy compacts and thin cosmetic tubes

The application of product-identification copy to small or awkwardly shaped containers can often be such a difficult problem that packagers don't even think of automatic means, but settle for hand or semi-hand techniques costly in both labor and output.

An efficient mechanical solution to such problems that should interest many packaging engineers has been found by Avon Products, Inc., Suffern, N.Y., in two new machines—incorporating miniature rubber-plate imprinters—that are integrated into package filling and assembly lines.

Operating at speeds up to 64 containers per minute, these units automatically print brand and color identification on Pearlescent powder compacts, Curl 'N' Color liquid-mascara pencils and sample-lipstick tubes at considerable savings in labor and production space. Through precise engineering and positioning of the small letterpress-printing units and careful selection of inks compatible with the packages' plastic and metal materials, a crisp and attractive printing job is achieved within the confines of a tiny area on the bottoms of the containers.

Compact Identification

For the polystyrene compacts, a 6-ft.-long machine that needs no individual operator has replaced two semi-automatic labeling machines and two operators. It is located at the end of the powder-filling line, where cosmetic compounds in about 10 different shades are automatically filled into base cans which are hand inserted into plastic outer shells.

Formerly, the line of containers was then split

Pencil color *in Avon's mascara line appears in small but legible type on the bottom of the case for easy reading through final blister pack.*

between the two labelers. Now, the compacts—riding upside down—are automatically swept by a belt conveyor to the printing head. Here they are mechanically oriented by a guide rail and leaf spring so that the imprinting is uniformly lined up with a protruding hinge and a molded decoration on the white plastic case. When the compact is correctly positioned, it engages a limit switch that serves to activate the printing mechanism.

To insure an even printing job, the letterpress unit is equipped with a curved inking plate coated by a small spreader roller which picks up ink from a main drum revolving in the ink reservoir. A larger pick-up roller then transfers the ink from this plate to rubber type mounted in an adjustable plate which can be rotated horizontally for fine alignment of the finished printing. A vertical movement of the head holding the inked type applies both the name "Avon" and the powder shade, such as "Autumn Rose" or "Tropicana," to a ¾-in. circular area located on the bottom of the compact.

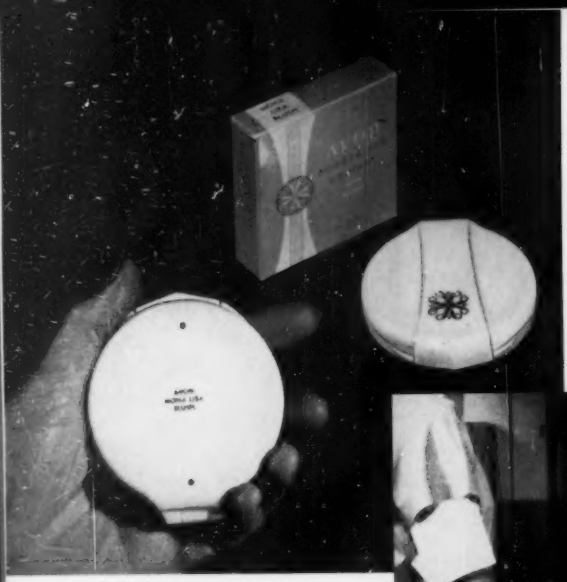
An ejector bar then pushes the compact out onto the main conveyor that carries the packages through a short hood where the ink is dried by four infrared lamps. The compacts are cartoned by hand.

Pencil marking

Identification of the liquid-mascara pencils is an even more precise operation, since the area for printing on the base of the pencil measures only ⅜ in. in diameter. Here, assembly and filling of the package are combined with the printing operation on a machine only 2 ft. long, which replaces four operators previously needed to apply pressure-sensitive stickers identifying one of about six color shades used in this product. Two operators are still used to feed the packaging components.

On the new 42-units-per-minute line, metal barrels

Tight little line *runs Avon liquid mascara pencils from automatic filler (left) through hand assembly (middle) to miniaturized imprinter (right), which automatically stamps color identification on bottoms of outer shells at 42 per minute. Pencils come in about six different colors, requiring simple change of rubber type in the letterpress imprinter.*



Compact color, *accurately positioned on the bottom of each compact (left) corresponds with color identity printed on cartons. Line for compacts (below) moves from hand assembly (left) to another small imprinter (right). Using compact hinge as a guide, the letterpress unit orients the upside-down container (lower photo), then applies brand name and one of about 10 product shades.*

that are to be filled with the liquid product are hand loaded into conveyorized clamps, which hold the barrels in vertical position. After the liquid product has been automatically filled, a decorative base is manually placed over the barrel and then screwed onto a threaded portion of the barrel by an automatic friction wheel. A pneumatic tamper next pushes the base down to a uniform position on the piston-like barrel package—an orienting procedure necessary for even imprinting and to prevent the possibility of damage being done to the imprinter by a misaligned container.

Product identification is applied to the small flat base of the mascara tube in much the same way as on the compacts, except that to insure even printing with the ink used on these metal containers, this rubber-plate printer utilizes a revolving inking plate to spread the ink. Only a single word, such as "black" or "brown," is applied to this package and the wet ink is dried in seconds by an air jet. The pencils are discharged onto a belt conveyor where decorative tops are added by hand and the completed container is packed into cases.

Lipstick imprinting

At Avon's Middletown, N.Y., plant, sample-lipstick cases, about the size of a 22-calibre cartridge, are imprinted on a rotary filling and assembly machine by the same type of imprinter used for the mascara pencils. This machine replaces several operators who previously were needed to apply color identification with rubber hand stamps.

These three solutions to difficult problems of package identification demonstrate the marked versatility now available in imprinting equipment and in the inks for such equipment. Packagers searching for efficient means of simple product identification may find the answer in the type of low-cost auxiliary equipment used by Avon Products.

SUPPLIES AND SERVICES: Model U-1015A and Model 70AB series imprinters and associated conveying and handling machines by Markem Machine Co., Keene 11, N.H.

Bemis nationwide packaging service

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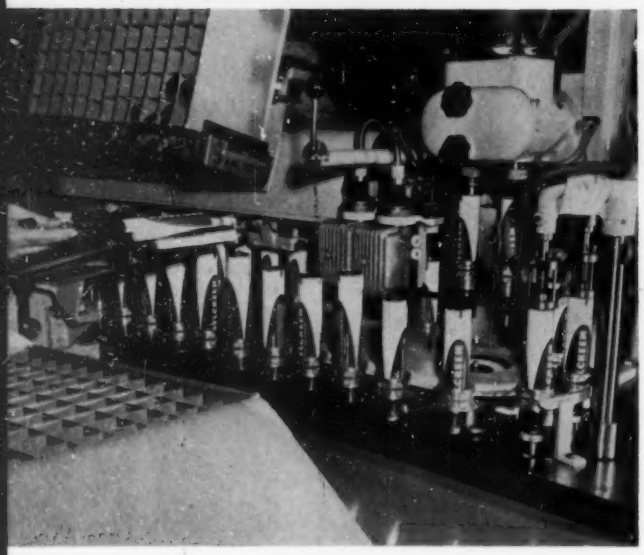
Bemis *where packaging ideas are born*

Improved high-speed tube fillers cut operating costs 50%

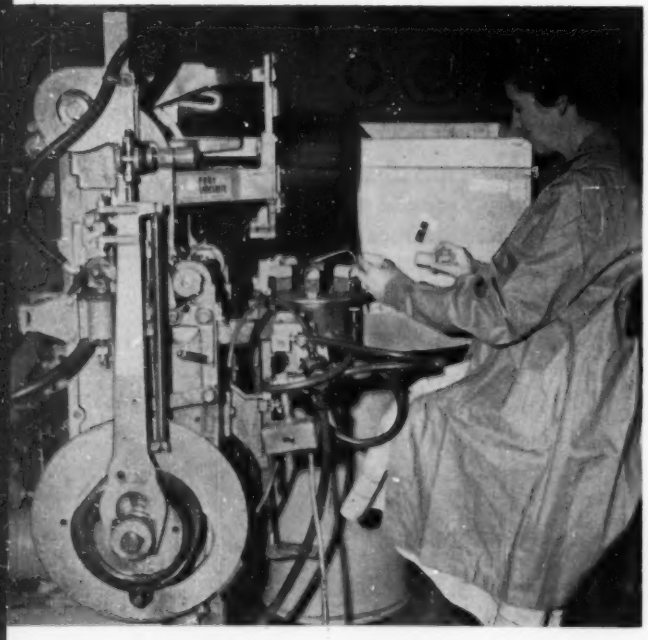


The multiple-function refinements which are being built into today's high-speed packaging equipment are steadily carrying production-line efficiency to new peaks—and at the same time plumbing new lows in operating costs. A case in point is the experience of Beecham Products, Inc., Clifton, N.J. Since the installation of a line of three new tube-filling machines for Brylcreem hair dressing, the company reports a doubling of packaging speed (to 270 tubes per minute) and a 50% reduction in over-all costs of operation.

Beecham's former packaging line also consisted of three machines, but their combined output was only 135 tubes per minute—less than half the capacity of the cartoning machine with which the line is synchronized. Thus, the new tube fillers keep the cartoner at virtually full production.

Each of the filling units has a pair of photo-electric eyes which automatically register the tubes and eliminate a former need for manual positioning. In addition, an automatic tube-feeding system replaces a slow and costly process of inserting tubes by hand into tube holders for travel through cleaning, filling and closing stations. *Tube fillers by Arenco Machine Co., 25 W. 43 St., New York 36.*

COST CUTTERS



New efficiency in labeling

Greater machine-operator safety and a 20% boost in production speed are advantages reported for a packager-built feed attachment developed for a semi-automatic labeling unit by Dynacolor Corp., Rochester, N.Y. The machine is being used to apply labels to cartridges and cans for 35-mm. reversal-type color film. According to the packager, the new attachment increases worker efficiency by enabling the operator to position containers faster and more safely.

It consists of a turntable, powered by an air motor through a ratchet-and-pawl mechanism, that carries eight jigs to hold the containers. Motion of the intermittent-action device is controlled by a limit switch, activated by an added cam surface welded to the main machine cam (lower left in the photo). This component triggers the air motor and turns the table, moving the cans or cartridges under the labeling head at a speed of 50 per minute. In the former operation, the worker had to fit the container by hand into a single jig located directly under the labeling head. The cramped quarters in which this operation was performed reduced worker efficiency as well as packaging speed, says Dynacolor. *Labeler by New Jersey Machine Corp., Hoboken, N.J.*

Bag-in-carton for retail liquids offers big savings

The polyethylene-bag-in-carton, a packaging concept that has taken hold among industrial marketers of bulk liquids, now has been adapted to the retail packaging of gallon and half-gallon quantities of distilled and spring water by Glenwood-Inglewood Co., Minneapolis.

Lightweight and disposable, the pour-spout container is said to provide big savings in shipping and handling costs compared with the glass bottle it replaces. When filled, one shipping case of 12 bag-in-carton units weighs no more than a case of eight bottles, the packager reports. The container also has won approval from retailers and consumers, says Glenwood-Inglewood. The square-shaped, stackable carton eases dealers' shelf-space problems. Because it is disposable, the container also eliminates handling and storage of returned empties. Consumers like the bag-in-carton, says the packager, because it is easy to grip, virtually unbreakable and reclosable for storage of unused contents. The container is set up, filled and sealed on specially developed automatic equipment. *"Liquatainer" film-bag-in-carton and filling and closing machine by Bemis Bro. Bag Co., 111-H N. Fourth St., St. Louis 2.*

Economy in a hang pack

Packagers of low-priced articles in header-label hang-up film bags are constantly on the lookout for ways to cut costs without sacrificing package performance or appeal. An illustration of what can be done is the polyethylene bag with pre-attached single-thickness paperboard header adopted by the Faultless Rubber Co., Ashland, O., for a line of self-selection toys and novelties. According to the company, the new hang package has cut header-label costs 50% while effecting appreciable increases in production speed.

The bag is supplied to Faultless with the header (coated on both sides with ½ mil of polyethylene) already attached to one lip of the film bag. Thus, packaging is a simple matter of inserting the product and semi-automatically heat sealing the open bag lip to the header—eliminating several operations that are necessary with saddle-type headers. The coated header assures a strong polyethylene weld, the packager points out. In addition, the fact that the bag and its header are pre-aligned assures consistently neat packages. *Hang package by Plastic Packaging, 2035 W. Charleston St., Chicago 13, using Union Carbide's polyethylene. Header by H. P. Smith Paper, 5001 W. 66 St., Chicago 38.*

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RESEARCH • METHODS • TESTING

TECHNICAL & ENGINEERING

CHARLES A. SOUTHWICK, JR., Technical Editor ROBERT J. KELSEY, Engineering Editor

Light studies of heat seals

Use of polarized light, in a new, simplified instrument, reveals by color weaknesses in seal areas and in the plastic material itself; role in quality control is suggested. By T. F. McLaughlin, Jr.*

A precise check on the continuity and quality of heat seals in plastic materials has been found possible by visual examination with polarized light. An economical, portable instrument has been developed for this purpose. With its use, considerable knowledge can be gained not only about heat seals, but about the quality of the plastic films being used.

The instrument is suggested not only for laboratory use, but for quality-control checks on the packaging line. Its use and some typical results are illustrated in color plates toward the end of this article (Plates A-F).

To understand the principle of the instrument, it is necessary to review some of the principles of light waves and also to examine the birefringent properties of transparent plastics.

The nature of light

Light waves—like radio waves, X-rays, infra-red and ultra-violet waves—are a form of electromagnetic radiation. All electromagnetic waves propagate through empty space at a velocity of 2.998×10^8 meters/second which is conveniently expressed as C, the product of wave length (λ) in meters/cycle and frequency (f) in cycles/second:

$$\lambda f = C = 2.998 \times 10^8 \text{ meters/second}$$

The major distinction between types of electromagnetic waves is in their wave length or its reciprocal—the frequency:

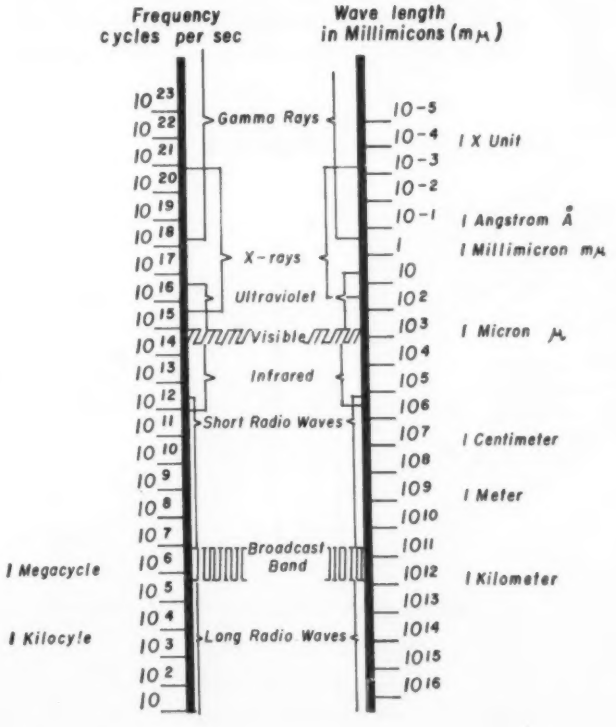
$$\lambda = \frac{C}{f} = \frac{2.998}{f} \times 10^8 \text{ meters/cycle}$$

Figure 1 is presented to illustrate the broad scope of the electromagnetic spectrum in which light waves (the visible part of the spectrum) constitute only a very narrow wave-length band from 400×10^{-9} to 750×10^{-9} meters (per cycle). Because the vast difference in wave lengths between radio waves and light waves is of the order of millions of times, it is more convenient to refer to the lengths of light waves in microns ($1\mu = 10^{-6}$ meters) or in millimicrons ($1 \text{ m}\mu = 10^{-9}$ meters).

The human eye may be described as a radio re-

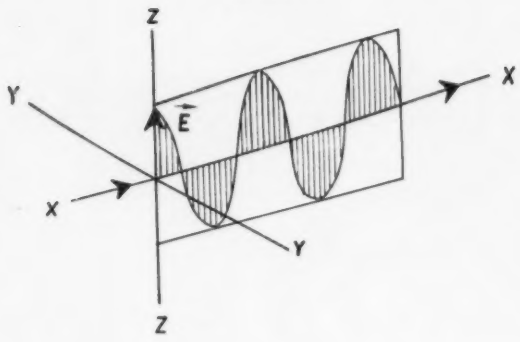
Figure 1

Electromagnetic Spectrum



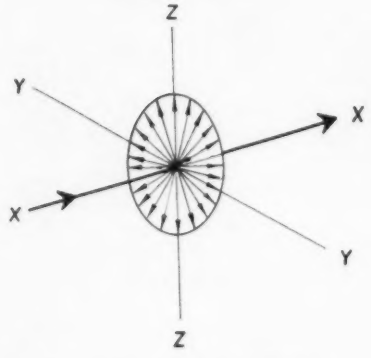
*Polyolefins Div., Polychemicals Dept., Technical Services Laboratory, E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.

Figure 2



Single Wave Oscillating in X–Z Plane and Propagating in X Direction

Figure 3



Natural (Unpolarized) Light

ceiver tuned to a wave length of 550 m μ, but which responds to a band ranging from 400 to 750 m μ. Distinct wave lengths in the visible spectrum correspond to distinct spectral colors; these span from violet at the 400 m μ edge of the band through green and yellow near the middle, to red at the 750 m μ edge of the band.

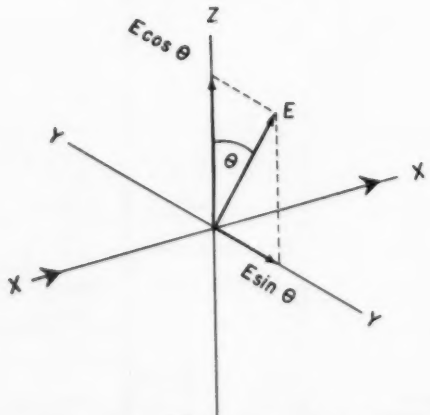
As with other electromagnetic waves, a single light wave may be mathematically treated as a vector of intensity **E** oscillating (one cycle per wave length) at right angles (transverse) to the direction of wave propagation. Figure 2 shows the conventional method of diagramming such a wave train propagating along the X-axis. It is most important that the reader keep in mind the transverse wave mechanism of light propagation.

Natural and polarized light

If a light wave were as simple as presented in Figure 2, it would be classified as being *linearly polarized*, meaning that at any fixed point along the X-axis the tip of the **E** vector always oscillates along the same line, i.e., the Z-axis. This wave may also be classified as being *plane polarized*, meaning that the sine wave generated by the oscillating **E** vector, propagating in the X-direction, lies in a plane defined by the X-Z axes.

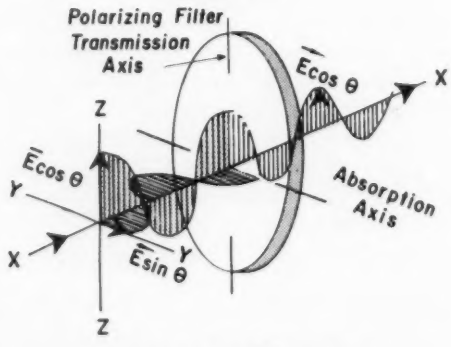
Waves from a radar antenna are plane polarized with the **E** vector in the plane containing the oscillating dipole. Likewise, the waves from a light source originate in the molecules themselves which, by producing radiation like dipoles of finite size, present a situation where waves from any one molecule would also be plane polarized. It is, of course, impossible to isolate a single molecule and study the emitted wave because every source of light consists

Figure 4



Resolution of $\vec{E}$ into two Vector Component

Figure 5



Transmission of $\vec{E}\cos\theta$ and Absorption of $\vec{E}\sin\theta$ Components

COLOR PLATE COURTESY DU PONT.

Plate A. *Compact instrument may be used on test bench or at the packaging machine. Heat-Seal-O-Scope has two polarizing filters mounted with optical axes at 90 deg. with respect to each other and at 45 deg. with respect to the frame, so that a heat seal held parallel to the long dimension may be seen in the brightest of birefringent color intensity. (Color plates on next page show close-ups of typical studies.)*

of countless molecules oriented in all possible directions. Any light propagating from such a source along the X-axis of Figure 2 would consist of a mixture of waves represented by **E** vectors in all possible directions. Such a light beam is classified as being *unpolarized* or *natural light* and is represented by the vector diagram in Figure 3.

Conversion to plane-polarized light

Control cannot be exercised over the orientation of each molecular dipole in a source of natural light; however, there are techniques of filtering out of a beam of natural light those waves, or their components, that oscillate in a particular plane. Such a filtering process is called plane polarization.

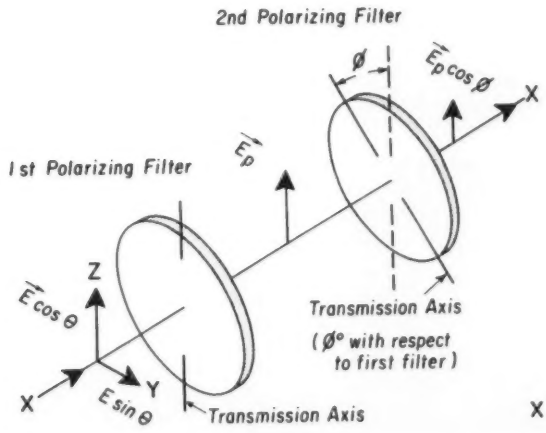
Let the vector **E** represent any random wave from a source of natural light. Let Θ be the angle **E** makes with the Z-axis. Although it is lying in a plane other than the two defined by the X-Y and X-Z axes, the magnitude of **E** may be defined by its two vector components in these planes: **E** sin Θ and **E** cos Θ, as shown in Figure 4.

In passing through a polarizing filter whose axis of absorption is oriented in the Y direction, the original wave of **E** intensity emerges as a component wave in the X-Z plane with an approximate intensity of **E** cos Θ. The other component wave, in the X-Y plane, is absorbed by the filter (Figure 5). The polarizing filter thus has two mutually perpendicular axes: the absorbing axis as was used in the X-Y plane and the transmitting axis in the X-Z plane.

Understanding how one random wave from a beam of natural light can be resolved into two vector components, one can visualize how all of the other random waves, as shown in Figure 3, can likewise be treated. The over-all effect is the absorption of components in the X-Y plane and the transmission of those in the X-Z plane.

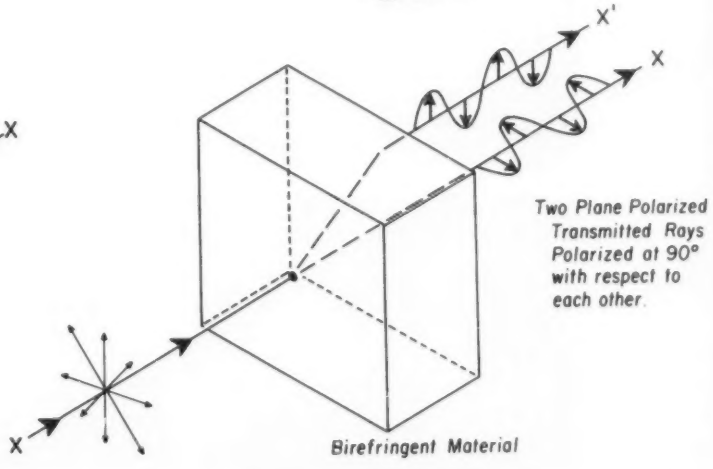
Plane-polarized light produced by the filtering of natural light may be directed to a second polarizing filter. If the transmitting axis of the second filter is of the same orientation as that of the first, the polarized light ($\mathbf{E}_p$) will pass on through. If, on the other hand, the transmitting axis of the second filter is at 90 deg. with respect to that of the first,

Figure 6



Transmission of $\vec{E}_p$ through 2nd Polarizing Filter

Figure 7



Natural Light Split into Two Beams of Polarized Light by a Birefringent Material

COLOR PLATES COURTESY DU PONT.

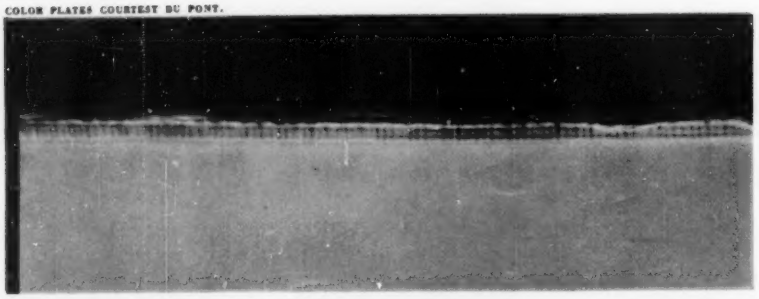


Plate B. *Distinct color shading along the heat seal indicates a thermal history different from that of the adjacent film area.*

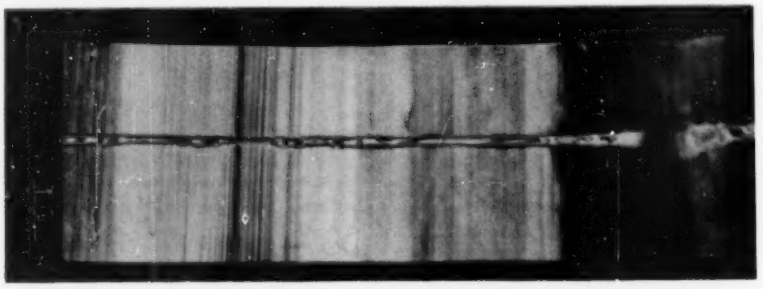


Plate C. *Pronounced weld line down the center of one side of this film tube, accompanied by pronounced regions of locked-in stresses about the tube circumference, indicate that poor transverse heat seals would be expected in fabrication of bags, due to different stress relaxations in each region.*

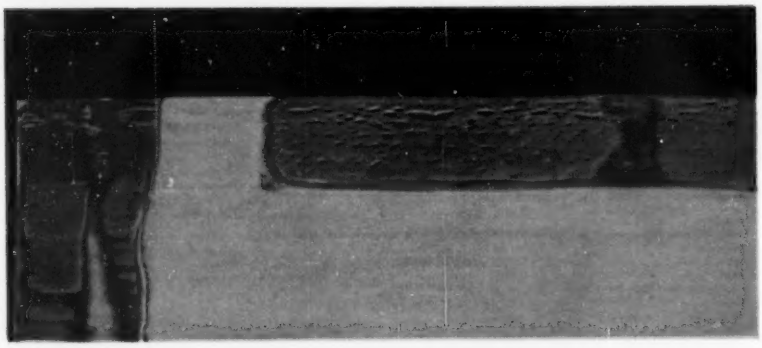


Plate D. *Poor control of temperature and pressure at the sealing bar is indicated by this pouch, formed from a lamination of polyethylene on cellophane. Soon after filling with a liquid material, leaks appeared in the corresponding corner of almost every pouch, as would be expected from lightly sealed (yellow) area.*

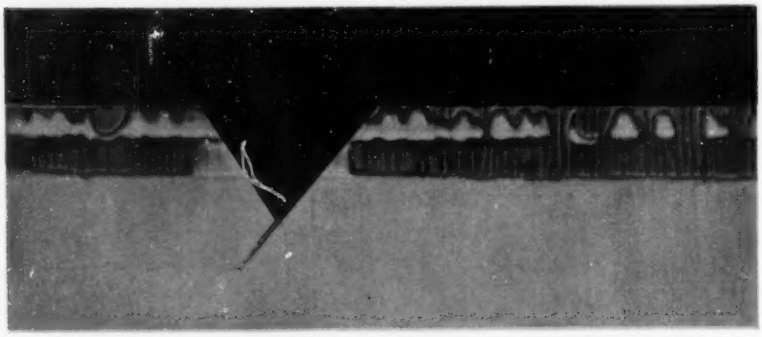


Plate E. *One sealing bar on the pouch machine had a rough surface such that the intimate contact necessary for heat transfer was not possible along the length of the seal. This is clearly shown by the contrasting color patterns.*

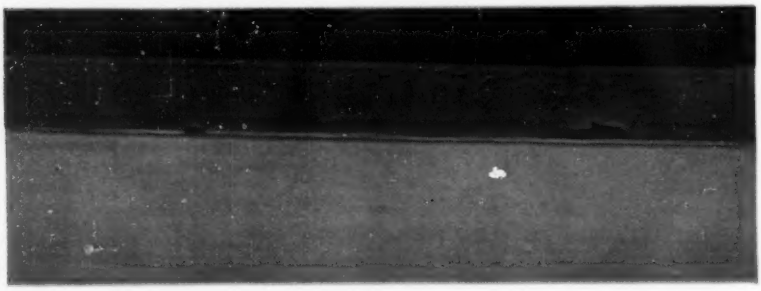


Plate F. *The sealing bar in this instance functioned as intended and resulted in producing an excellent, uniform weld.*

none of the polarized light ($\mathbf{E}_p$) will pass through because it will be absorbed by the second filter. By rotating the second polarizing filter with respect to the first, one will have in effect a "light valve" which can be opened and closed within a 90-deg. turn. For any particular angle (ϕ) formed by the directions of the transmitting axis of the second filter with respect to that of the first, the intensity of emerging light will be proportional to $\mathbf{E}_p \cos \phi$ (Figure 6).

Double refraction

When a ray of light enters a homogeneous transparent substance, such as glass, its path is bent by an amount determined by its velocity in the glass relative to air. This ratio of the velocity of light in empty space (or air) to its velocity in a transparent material is called the index of its refraction.

In the case of transparent materials such as calcite and mica crystals and plastics, the bending of light is not so simple as the case described above. These materials demonstrate a phenomenon called double refraction, or birefringence, in that they can divide an incident ray of natural light into two beams which pass through at different velocities. One beam will thus be retarded in relation to the other while traveling through such a birefringent material and both will emerge polarized at right angles to each other (Figure 7). The axes of polarization will correspond to those of the principal strains. In the case of plastic films, these axes are dependent on molecular orientation.

As plane-polarized light passes through a birefringent material it is split into two components polarized in the planes of the principal axes (usually at 90 deg. to one another), is transmitted at different velocities and emerges with one component out of phase with respect to the other (Figure 8). At a second polarizing filter (or analyzer) only those components of both waves in the plane of the axis of polarization are transmitted; all others are stopped. With white light the two components transmitted out of phase by a birefringent material produce colored patterns in the analyzer. If a particular spectral color corresponds to a specific state of uniform strain in the birefringent material, a nonuniform strain will result in variously colored striations and patches.

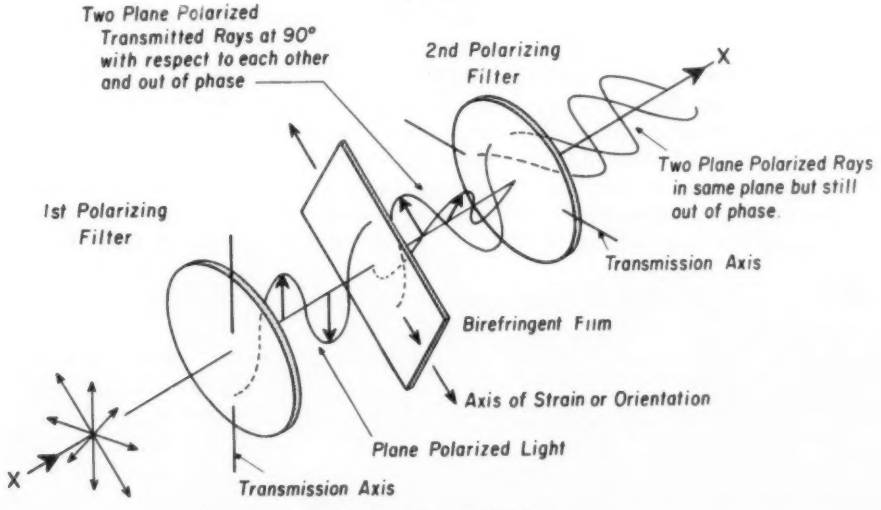
Plastics as birefringent materials

The double refractive or birefringent property of a transparent plastic is dependent upon the crystalline structure of the polymer and the orientation or strains induced during the fabrication of the piece. Transparent-plastic models (styrene, acrylic, etc.) have long been used with polarized light to study strain development, under dynamic loading, in the structural components they represent. This technique is called photostress analysis; there have been several published articles in this particular field (1, 2, 3, 5, 6, 7, 8, 10 and 11).[1]

A transparent packaging film or laminate that has been properly fabricated should display identical birefringence through all points of its area. When a fusion heat seal is made between two such films, the weld area undergoes a change in both the

[1]Numbers in parentheses identify References appended.

Figure 8



Transmission of Plane Polarized Light by a Birefringent Plastic Film

crystalline structure and the orientation. This area, when viewed next to the double thickness of the unsealed film area, will display a different birefringent color. It is thus possible, by observing a length of heat seal, to detect variations in the fusion weld by variations in birefringent color produced with polarized light.

This technique had been used with great success at our Technical Services Laboratory in detecting possible causes for poor heat seals on samples submitted by customers. The encouraging results at this laboratory led to the joint development, with a machine and development company, of an instrument called the "Heat-Seal-O-Scope."[2]

The Heat-Seal-O-Scope

As the name implies, the Heat-Seal-O-Scope is a device for the visual examination of heat seals in transparent plastic films and laminates. It was designed as a featherweight, portable instrument capable of fitting in the average briefcase or of being mounted, in limited space, on a test bench or packaging machine. Although polarizing devices known as polariscopes are available from scientific supply organizations they are larger, more expensive and, having circular, adjustable filters, are more suited to viewing wider objects. The Heat-Seal-O-Scope has two 2-by-5-in. polarizing filters mounted with optical axes at 90 deg. with respect to each other and at 45 deg. with respect to the frame, so that a heat seal held parallel to the long dimension may be seen in the brightest of birefringent color intensity (see Plate A). Also by having the filter frames supported on only one long side (Plate A), it is possible to move a long continuous heat seal, unobstructed, between the filters.

Study of heat-seal problems

By using polarized light in the study of heat-seal problems it was soon noticed that the quality of polyethylene blown tubing contributed as much as did the condition of the sealing bar. Instead of observing a distinct color shading along the heat seal (Plate B), which would indicate a different thermal history from the adjacent film area, we noticed in some cases (Plate C) a pronounced weld line down the center of one side of the tube, accompanied by pronounced regions of locked-in stresses about the tube circumference. The subsequent transverse heat sealing of this material during the fabrication of bags resulted in poor heat seals due to different stress relaxations in each region. Using the best controlled bag machine, it would have been difficult to produce a good seal with such material.

[2]The Heat-Seal-O-Scope is manufactured by The Precision Machine & Development Co., New Castle, Del.

Other studies on both blown and flat polyethylene film revealed that gradual variations in color indicated corresponding variations in caliper. It was thus necessary to make a careful check of caliper with all of the samples which were studied. Sharp lines of color change, however, are almost invariably due to induced stresses.

More in line with what would be expected from poor control of temperature and pressure at the sealing bar is the example shown in Plate D. This pouch, formed from a lamination of polyethylene on cellophane, was produced on a forming and filling machine. Soon after filling with a liquid material, leaks appeared in the corresponding corner of almost every pouch. A look at this corner with the aid of the Heat-Seal-O-Scope revealed a pathway through the seal area of the same birefringent color as the unsealed area. This similarity of color indicated a severe gradient in temperature at the end of one of the sealing bars such that only a superficial tack weld was formed. The slightest impact on handling the filled pouch would result in peeling this area apart. Another sealing bar on this same machine had a rough surface such that intimate contact necessary for heat transfer was not possible along its length. This situation is shown in the contrasting color patterns of Plate E. One sealing bar on this machine was functioning as intended and it resulted in producing an excellent, uniform weld as shown in Plate F.

Quality control

An understanding of birefringence and how the instrument has been used in the solution of specific sealing difficulties must be coupled with the imagination of the individual in the proper use of this new technique with his unique problems. Alone, the Heat-Seal-O-Scope cannot be considered a quantitative instrument. It must be used in conjunction with a processing variable in either the extrusion of film or in heat sealing, such that operating changes effecting the birefringence of the web or weld can be correlated with specific colors or shades. In such a manner the range from "too cold" through "too hot" may be defined for a specific material of uniform caliper. Saving samples of material with proper identification of processing conditions will prove most helpful for references.

With filling and sealing machines, when a packaged product is being turned out at fast rates, the instrument is suited for spot checks on the quality of seals. The samples taken from the line should be saved for reference. One sample taken every 15 or 20 min. may be all that is needed to detect a gradual change in sealing conditions.

The reader wishing to [*Continued on page 165*]

Film valve for shipping bags

Experimental and commercial use of a new self-closing polyethylene valve shows many advantages over tuck-in paper sleeve; siftage and contamination are reduced. *By N. Y. Arnold and D. E. Gould**

Plastics for industrial and chemical packaging have been consistent headline makers in recent years. Molded shipping drums, liners, coated paper and paperboard, all-film shipping bags—each has gained an important place in this market and each can be expected to gain greater stature in the future.

One of the newest developments shows promise of revolutionizing the bag packaging of chemical and other fine-powdered and granular products. It involves the use of a polyethylene-film sleeve, instead of paper, in valve-type multiwall bags.

Union Carbide Plastics Co., in cooperation with major bag suppliers, has been working on the development of this free-film valve for a period of almost two years. Using bags supplied by several different manufacturers, tests repeatedly have shown the superiority of the free-film valve over the standard paper-sleeve valve designs in reducing both product siftage and contamination.

Advantages of valve bags

Valve bags have been steadily gaining favor in several industries, notably chemicals. For a given quantity of product, valve bags can be made smaller than corresponding open-mouth bags. This means that the product can be packed tighter, the bag takes up less storage space and it is easier to palletize.

*Both of Union Carbide Plastics Co., Bound Brook, N. J.

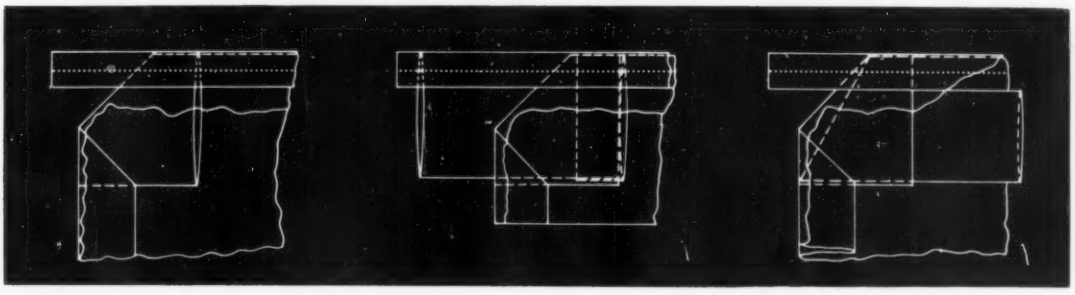
Sleeve valves commonly used today in the chemical industry are made of polyethylene-coated or uncoated extensible or creped kraft paper. In many cases, an external tuck-in-type valve is used and until now, this has proved the most effective valve design for preventing product siftage and contamination. The valve sleeves are tucked in manually.

Valve bags, even with the tuck-in sleeve, generally have not measured up to sewn open-mouth bags (particularly those with heat seals or with tape over stitching) in keeping the packaged product free from siftage and contamination. The film-sleeve valve is a major step toward improving this shortcoming.

The film valve offers additional advantages. Because they are self-closing, the bags can be packed much faster than bags having a standard tuck-in valve. After being filled, the bag is pushed off the filling nozzle and dropped on the valve end. The impact and pressure of the packaged product press the film sleeve together. This pressure, plus the self-cling characteristics of the film, keep the sleeve pressed together until the bag is used. The entire tuck-in step in the packing operation is eliminated, thus reducing packing time and increasing efficiency.

The film valve is expected to offer definite economy advantages over the tuck-in sleeve. The limited experience of multiwall-bag manufacturers prevents firm price comparisons at this time, but it is esti-

Figure 1. *Three basic varieties of valve bags (left to right): sleeveless, tuck-in sleeve and internal sleeve. These are sewn bags; there are also pasted bags and each type can be obtained with many different modifications.*



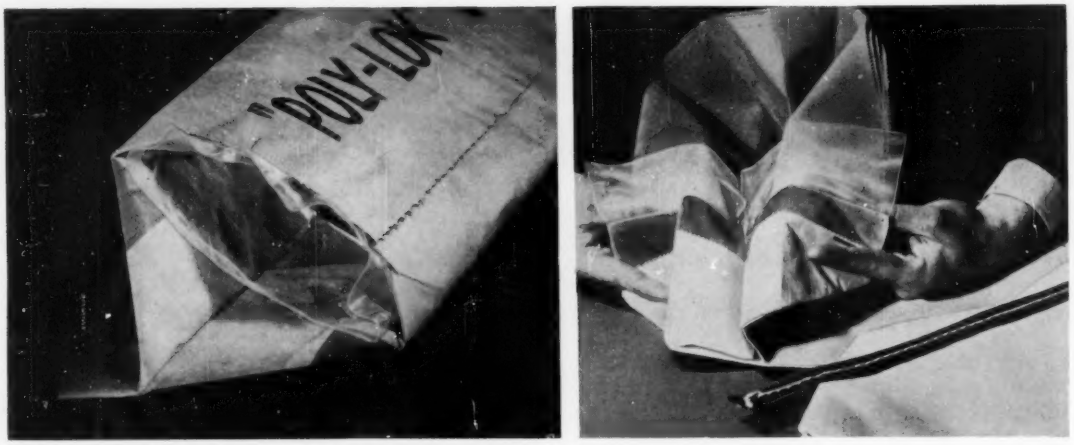


Figure 2. *St. Regis' "Poly-Lok" bag (left) with polyethylene film sleeve is a pasted-valve bag. Chase's "Poly Insert Sleeve" bag (right) is of sewn-type valve construction.*

mated that the film valve will cost less than half as much as paper tuck-in valves.

Many factors are involved in the development of the most effective design for a polyethylene-film sleeve valve; for example, resin density, film thickness, length or extension of the valve, whether or not the valve is slit, etc. Many hundreds of experimental bags were supplied by the cooperating companies, on which the effect of these variables was evaluated at Union Carbide Plastics laboratories.

Testing

Two principal test instruments were used—a 7-ft.-diameter tumbling drum (ASTM-D782-60T) and a shake table (ASTM-D999-59T). The tumbling drum was used to determine loss of product through siftage, the shake table to determine the effectiveness of the film valves in preventing contamination of the packaged product by fine sand which was poured over the bags throughout the test. In all tests, polyethylene resin was the product packaged.

Each test was considered to create conditions far more severe than those encountered in normal use. The shake-table test was modified by the use of a 3-by-3-ft. box to simulate freight-car shipping. The wood used in the construction of the box is that commonly used in freight-car interiors.

The bags tested were all alike with the exception of the factors under investigation. They were 20½ by 25 in. in size, with 5½-in. pasted valves with stepped end. The construction was 1/10-lb. polyethylene, 40-lb. kraft, 1/40, 1/50, 1/60 natural kraft. Bags used as the control in the tests had external polyethylene-coated paper tuck-in sleeves, a type of sleeve commonly used in multiwall bags for packaging polyethylene resin.

The film valve offering the best all-around performance (for this particular bag and the product to be packaged) of the 20 different designs tested was made of 0.928-density polyethylene film, 1.5 mils thick, unslit and extending 2 in. beyond the paper portion of the valve. Contamination permitted by this valve in this series of tests averaged 0.0161 gm. of sand per 2-lb. sample of resin. The control bag averaged 0.0304 gram.

In the tumbling drum, this film valve averaged 68 cycles to failure (leakage of resin at the spout); the control bag averaged less than five cycles.

Other reports

Reports from the testing laboratories of major bag suppliers have confirmed the superiority of the film-valve bag. One of the pioneers in the development, St. Regis Paper Co., has conducted special high-frequency vibrator tests on its "Poly-Lok" pasted-valve bag, compared with several standard paper inserts. Both granular and powdered materials were used in the tests. The test bags for the granular product were 50-lb. capacity with a 4⅝-in. valve. Bags with 100-lb. capacity and 3¾-in. valve were used to package the powdered material.

Here are the results reported by St. Regis:

Granular material

Type of insert	*Siftage (gms.)*
50# NK, slit, 3-in. extension	65
50# "Clupak" extensible paper, slit, 3-in. extension	26
50# "Clupak" extensible paper, unslit, 3-in. extension	1.73
"Poly-Lok" valve, 1¾-in. extension	0.35*

Powdered material

50# NK, 1¾-in. extension	15.9
50# "Clupak" extensible paper, unslit, 1¾-in. extension	1.21
"Poly-Lok" valve, 1¾-in. extension	0.39

*Found 100% effective in field test.

To make such valve performance a commercial reality for its customers, St. Regis devoted considerable time and effort to modifying existing packers. A St. Regis spokesman states that these modifica-

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Figure 3. *Shake table, operating at 150 cycles per minute while sand is sprinkled over the bags, provides a severe test of valve bags. Both contamination of product by sand and loss of product from bags can be measured.*

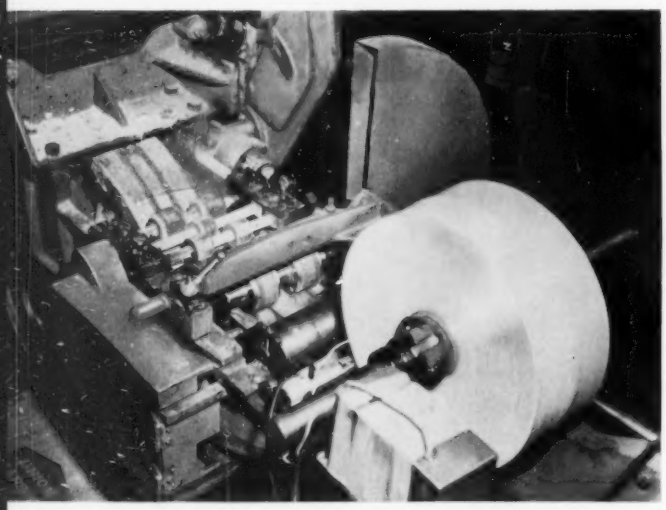

Figure 4. *Sidewise bottomer at West Virginia Pulp & Paper Co. plant cuts sleeves from roll of polyethylene tubing, inserts them in valves and then seals both ends of bags, all automatically and at high speed.*

Figure 5. *Careful quality-control check of bags coming off bottomer assures that the film sleeve is well pasted in and will perform properly in use.*

tions permit the "Poly-Lok" insert to be used instead of the tuck-in paper sleeve with considerable increase in production rates.

West Virginia Pulp & Paper Co. gives this summary of some of its work on the P.E.-film valves:

Products: Flour and pigment

Sleeve stock	*Sifting check**
Strip insert 50-lb. "Clupak" extensible paper	Fair
Tuck-in sleeve	Good to excellent, depending on fold
1-mil P.E. 2-2½-in. extension	Excellent
1½-mil P.E. 2-2½-in. extension	Excellent
2- and 3-mil P.E. 2-2½-in. extension	Good
4-mil P.E. 2-2½-in. extension	Good
5- and 7-mil P.E.	Good
10-mil P.E.	Fair to good

Product: Polyethylene cubes

P.E. 0.928-density, 2¼-in. extension, 1½ mils	Excellent—no product loss
Crepe tuck-in sleeve	Good to excellent, some to no product loss

*Fair—some noticeable sifting and channels. Good—slight sifting on some samples. Excellent—no noticeable sifting.

It will be noted that the different laboratories do not precisely agree on the optimum specifications for valves. This is understandable because the identity of the product being packaged, its density, the construction of the bag and other factors all affect the performance of the valve. The optimum specifications for one bag or one product are not necessarily best for another.

Chase Bag Co. lists these among the advantages for its "Chase Poly Insert Sleeve," which is supplied in both sewn and pasted varieties:

1. Considerable reduction in siftage of fine materials and in contamination from outside.
2. Full moisture protection in the sleeve area (achieved for the first time in valve bags, according to Chase Bag Co.).
3. Bags stay cleaner and the plant's packing areas are relatively dust free.
4. Easy placement of bag on filling tube.
5. Necessity of packaging in excess of designated weights in order to compensate for leakage during shipment is minimized.

International Paper Co. expects widespread usage of the film valve in multiwall bags. International's Bagpak Division is now marketing this valve under the trade name "Poly-Seal." Bagpak's product manager states that the valve showed superiority in preventing sifting and contamination in tests with both carbon black and polyethylene resin.

Union Bag-Camp Paper Corp. offers a different approach to the film-sleeve design for stepped-end pasted-valve bags. The [*Continued on page 164*]

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Faster weighing techniques

Q: *Our net-weighing machines are capable of much faster mechanical action than they are now producing. But, every time we try to speed them up, we get gross inaccuracies in weight. Can you tell us what is the cause of our trouble?*

A: The immediate suspicion is that your weighing device depends on a mechanical fulcrum for operation. Such mechanisms have a practical limit on speed and, furthermore, are affected by both the impact of product and the background vibrations which are induced by general machine action.

Various mechanical, penumatic and electronic systems have been devised to minimize these problems, but perhaps the newest and most effective system is an electronic weigher that actually measures the extraneous vibration and subtracts it from the weighing impulse. There are several additional benefits of this particular system.

This scale works with two variable transformers. One measures the total effect of product weight and machine vibration through a mechanical bending beam that is attached to the transformer core; the other, located outside the weighing circuit, measures only vibration. When the two signals are subtracted electronically, the resultant impulse represents weight alone.

An immediate benefit of this device is an increase in weighing speed, since the system dampens scale oscillations and thus reduces deviations in weight. In addition, the dampening minimizes impact of the product on the scale pan and also enables use of this system to predict accurately the amount of product remaining in air during a weighing cycle.

A new mechanical system for accurate weighing utilizes a reverse weighing unit that overfills product on the weighing head and then dribbles out of the weigh pan to come down to weight. This machine also utilizes feed-back control to keep overfilling within mechanical handling limits as well as to allow for product build-up on the scale pans.

Pneumatic controls that are activated by bending beams have been used for some time and are only limited by the reaction time of an air-propelled piston.

Large-sized pouch packages

Q: *Is there a way in which we can package bulky, irregularly shaped products in a transparent film without having to use pre-formed bags?*

A: We assume that you want to form a pouch around your product directly from roll-stock film.

There are a number of new horizontal pouch forming and sealing machines working from either one or two film webs that are designed for this purpose and which have mechanical clearances large enough for bulky objects. Some have special modifications for handling such diverse products as hardware, toys and wedges of cheese. There are also one or two new vertical machines that operate from a single center-folded film web which will handle even larger objects. Machine speeds range from 20 to more than 100 packages per minute.

In addition, a recent trend in the bagging of bread has spawned equipment that automatically makes film bags and fills and seals them at good packaging speeds. There is also a new machine that automatically fills and seals pre-made bags. While these units utilize bags, they are efficient for awkwardly shaped products and they eliminate hand labor, which we assume is your principal objection to standard bagging operations.

Thus, no matter what the size of your product or the degree of automation desired in your packaging operation, you should be able now to find a unit that will meet your packaging requirements.

Mandatory brochures for drugs

Q: *Starting this year, the Federal Government insists that all pharmaceutical products be packaged with informational brochures. Since we dropped the use of cartons for our bottled drug products some years ago, this regulation poses quite a problem in our packaging department. Are there any packaging techniques and machines available that will combine informational brochures with our bottles, or must we go back to cartoning?*

A: Your problem is widespread in the pharmaceutical industry at the present time and is the subject of intensive efforts on the part of suppliers of packaging materials as well as the manufacturers of packaging machinery.

There are several current approaches to attaching brochures to bottles that may be feasible for your operation. First, there are a number of leaflet folding and feeding units on the market that could be tied in with existing taping heads to attach brochures with either transparent or opaque pressure-sensitive tapes. Jigging for such a combination machine could be easily adapted from present taping units.

At least one supplier is now working out a combination package with a band of shrinkable polyethylene or polypropylene film, too. There is a high-speed horizontal pouch-packaging machine that, it is believed, could be easily modified to wrap bottles and brochures in these materials by eliminating the longitudinal heat sealers and there are several semi-automatic machines that could do the job without any modification. After passing the wrapped bottles and leaflets through a shrink tunnel, the film will form a tight and transparent band that is attractive and also holds the brochure firmly in place.

However, if you decide to go back to cartons, you will find great improvements in both cartoning equipment and in the auxiliary attachments to fold and insert stuffers. At the recent PMMI Show in Detroit, several machines were available for automatic feeding of pre-folded leaflets at high speeds and one fast new cartoner has a roll-feed attachment that cuts off the leaflets, folds and inserts them at extremely high production rates. This unit would be very economical if you have long runs on a standard product.

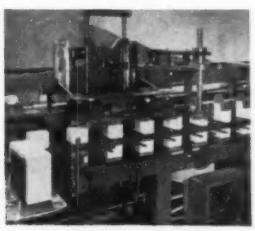
new JONES medium speed semi-automatic performs more cartoning operations with greater economy

JONES IMV

Intermittent • Motion • Vertical

By combining top loading with intermittent motion, the new Jones IMV performs multiple operations, such as, • loading multipacks of several identical products, or one product and several related items. • leaflet folding and inserting • imprinting carton side (plunger can be inserted into carton to support the side while printing).

Many hand cartoning operations can now be assigned to the semi-automatic IMV with attractive reductions in labor costs. Further economies can be achieved by the extra, related operations (mentioned above) that can be performed simultaneously, automatically. The new IMV is built to the high performance standards for which Jones is noted. Speeds range from 20 to 60/cpm; accommodates cartons from 1″ x ¾″ x 1¾″ to 4″ x 2¾″ x 7″. Special speed and size ranges also available.



The new IMV is a "sister" machine to the production-proven CMV. For complete information on both, write for descriptive bulletins.

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aerosol marketing!

labor problems . . . no warehouse problems . . . no shutdowns or seasonal layoffs . . . no obsolescence. And equally important, you get the benefit of the contract filler's experience . . . his trained personnel . . . his versatility and adaptability . . . his quality control and fixed costs.

We have highlighted here a few of the more important advantages of doing business with a contract filler. For additional information, and a list of experienced contract fillers, write: "Genetron" Dept., General Chemical Division, Allied Chemical Corporation, 40 Rector Street, New York 6, N.Y.

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plants & people

John W. Carlile, who joined **Ekco-Alcoa Containers Inc.** last year as gen. mgr. for marketing services and was then made director of marketing, has now been named v.p.-marketing of the Wheeling, Ill., firm. Prior to joining Ekco-Alcoa, he was with the **Plax Corp.,** Hartford. **Jack B. Blane,** formerly mgr. of the company's engineering dept., has been named v.p.-engineering. He has been responsible for the firm's foil-container tooling and engineering design.

Carlile *Blane*

Ross Betts, engineering v.p. of **Dow Chemical's Dobeckmun Div.,** Cleveland, has retired for reasons of health. His duties have been assigned to **Russell Hoelzer,** mgr. of design engineering, and **Russell F. Pierce,** mgr. of new-product development. Mr. Betts had been with Dobeckmun for nearly 32 years and was a pioneer in the development of laminating, slitting and spooling equipment for cellophane tear tape. (See "The Tear Tape," MODERN PACKAGING, July, 1959, p. 90.)

Four executive appointments have been made in the marketing dept. of the new Forest Products Div. of **Owens-Illinois Glass Co.,** Toledo. They are: **James C. O'Neal, Jr.,** gen. sales mgr. for multiwall bags and paperboard; **John R. Murphy,** mgr. of product planning; **Peter J. Fluge,** mgr. of sales prom. and communications, and **William H. Morris,** mgr. of market development. Also in the Forest Products Div., **Frank P. Brophy** has been named sales mgr. for paperboard.

O-I has purchased a plant in Newburyport, Mass., to manufacture blow-molded plastic bottles for household products. Production is scheduled to begin shortly, according to the company. The new facility is the company's 13th plastic-bottle plant. O-I's Glass Container Div. has opened a new office in Tampa, Fla. **Robert G. Shackelford,** formerly with the Jacksonville office, is in charge. Also in the Glass Container Div., **Ross D. Bartschy,** a salesman in the Cincinnati office, has been named mgr. of the firm's Columbus, O., office. He succeeds **Ken Roethlisberger,** who has been transferred to the division's Midwestern regional staff in Chicago.

A number of promotions have been made in **American Viscose Corp.'s** Film Div., Research and Development. They include: **Dr. Charles M. Rosser,** to research scientist; **Joseph C. Mohan,** to section leader for the coatings and special products section; **Walter R. Pavelchek,** to section leader in the base-film development section; **Robert L. Lamberson,** to group leader of the melt-extrusion group (part of the base-film section); **Joseph T. Sincavage,** to group leader of the coatings and plastics group (part of the coating and special section); **Dr. John L. Justice,** to group leader of the base-film group of the film applied research section, and **Dr. Walter T. Koch,** to group leader of the coatings group of the same section. All will be headquartered at the Philadelphia company's Marcus Hook, Pa., facility.

In a realignment of **Coates Board & Carton Co.'s** top management, **W. R. Robbitts,** exec. v.p. since 1958, becomes pres. **C. I. Wilson,** pres. since 1953, becomes vice chairman of the board for

Robbitts *Wilson* *Ecclesine*

the Garfield, N. J., firm. **Thomas C. E. Ecclesine,** formerly v.p. of the **Gardner Div.** of **Diamond National Corp.,** New York, succeeds Mr. Robbitts as exec. v.p. of Coates.

Crown Zellerbach Corp.'s Gaylord Container Div., St. Louis, has established a new post of mgr. of new products development and has named **Ernest E. Pechon** to fill it. Mr. Pechon has been serving as sales mgr. of the firm's New Orleans office. He is now headquartered in St. Louis. **Gaylord Fauntleroy** has been appointed mgr. of Gaylord's Houston plant. He will supervise sales, administration and production.

Deering Milliken, Inc., New York, has acquired exclusive U. S. rights to patents and trademarks for Tetra Pak containers, machinery and packaging materials from **A. B. Tetrapak,** Lund, Sweden, developer of the package and process. Deering-Milliken will lease the Swedish-made machines and print and sell the materials—activities previously carried out by **Tetra-Pak Co., Inc.,** of Union, N. J., a branch of the Swedish company.

John S. Dartnell has been appointed mdsg. mgr. of **AviSun Corp.,** Philadelphia. He joined AviSun after 10 years

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Something will be missing here at MODERN PACKAGING after January 1. Perry Backstrom is retiring. His quiet good humor and friendly counsel for 35 years have been as much a part of the magazine as the masthead on the cover. He will be equally missed by innumerable companies whose advertising accounts he has handled over all these years in both MODERN PACKAGING and *Modern Plastics* magazines.

Still in robust health at 69, Perry will not retire to a rocking chair. He expects to travel, to fish and—with his daughter, Jacqueline—to pursue a new hobby—bird watching.

Perry H. Backstrom. *Going fishing*

A "charter member" of its business staff, Perry H. Backstrom joined the Breskin organization in 1927—the year MODERN PACKAGING was founded—in its Chicago business office. Moving to New York headquarters in the early '30s to cover the New York and New England territories, he was instrumental in helping the magazine grow from the first slim 52-page issue, published in a 9-by-12 office in the old Pulitzer Building on Park Row, to its present position of dominance in the field. When *Modern Plastics* was founded in 1934, he became one of the first men to convince producers in the then-infant plastics industry of the values of business-paper advertising.

Perhaps the ultimate measure of the regard which Perry commands in the packaging and plastics fields is that many accounts he signed up for the premiere issues of MODERN PACKAGING and *Modern Plastics*—including some of the largest companies in these industries—have been consistent advertisers ever since. It is also noteworthy that, in the past few years, Perry has been calling with undiminished enthusiasm and success on the second-generation successors of the men he contacted in his early days with Breskin.

with **Scott Paper Co.** AviSun is a producer of polypropylene resin and film. AviSun has also established a sales office at 625 Kingsley Dr., Los Angeles, to serve the 13 Western states and Texas. **John S. Thompson, Jr.** is heading up the new office.

E. H. Wright, technical service engineer of **Minnesota Mining & Mfg. Co.,** St. Paul, has been appointed to fill the new post of tape-packaging specialist. According to 3M, the creation of the post is a part of the company's stepped-up program to offer additional service in the field of heavy-duty packaging, especially corrugated.

Tennessee Eastman Co., Kingsport, Tenn., is planning to increase its polypropylene-production capacity by 50% with the addition of a new unit to its present Longview, Tex., works. The new unit will have a capacity of 10 million pounds annually and reportedly will bring the firm's total production of Tenite polypropylene at its Texas facility to 30 million pounds per year.

Eastman Chemical Products, Inc., Kingsport, marketer of the Tenite line of plastics, has under construction at Kingsport a new development and sales-service laboratory. Scheduled for completion this summer, the 75,000-sq.-ft. laboratory is aimed at aiding Eastman's customers in the efficient use of Tenite plastics.

Morse

After eight years as public-relations director of the **Lithographers & Printers National Assn., Herbert W. Morse** has resigned to accept an appointment as director of public relations for **Diamond National Corp.,** New York. Mr. Morse will supervise the firm's financial-stockholder, institutional, community, employee and product communications. Diamond National is a manufacturer of paperboard, molded pulp and other packaging materials.

Floyd G. Stoegbauer has been appointed gen. sales mgr. of **Standard Packaging Corp.'s** Converting & Packaging Group. He joined Standard last March as asst. to the v.p. of marketing. The Converting & Packaging Group consists of 13 operating divisions and subsidiaries located throughout the country and engaged in the production of film, foil and vacuum-packaging machinery, set-up and folding boxes, labels, closures, cap liners and many other types of packaging equipment and processes. Standard's general offices are in New York.

New advtg. mgr. for **Avery Label Co.,** Monrovia, Calif., is **Miles Turpin.** He will supervise advertising, sales promotion, merchandising and art activities at the company's three plants. Avery also has expanded its field sales-management organization. The New York

[*Continued on page 138*]

THE RIGHT ADHESIVE FOR PAPER CONVERTING

(and how the Arabol man helps you select it)

1. LAMINATIONS. Whether it's paper to synthetics, metal foil to paper, paper to board, or whatever combination — laminating is *the* growth business. And laminating means bonding with adhesives for strength and other characteristics. The *right* adhesive is needed to seize two materials with dissimilar surfaces and hold them together as one substance . . . permanently and economically. Your Arabol man knows laminations. Let his knowledge help you improve your operations.

2. LABELING. Labels on glass, labels on wood, labels on metal, labels on paper and paperboard . . . labels on most anything! Perhaps you want the label to be as permanent as the container itself; or maybe you want the label easily detachable to permit re-use of the package or confidential treatment of label data. In every case, the service of the label is controlled by the selection of the adhesive. For the most effective use of your labels, at maximum economy, call in the Arabol man to select the *best* adhesive.

3. PRODUCT FORMING. From paper cups to coffee bags, soda straws to storage cartons, window envelopes to paper cans . . . paper converting needs adhesives application. As new items appear, or improved versions of conventional lines win added acceptance, it becomes important to choose the most efficient, most economical adhesive. In determining the one adhesive formulation that is best for your specific needs—your Arabol man can aid you.

4. PACKAGING. Achieve maximum utility in closing and sealing your cases and cartons — for immediate delivery and dispensing, or for extended storage with better protection for contents against contamination, damage and pilferage — with the correct adhesive designed for your requirements in this application. The unexcelled knowledge of your Arabol man covers case sealing as thoroughly as all other adhesive applications. Let him work with you.

INCREASE YOUR ADHESIVE KNOW-HOW . . . Read our informative quarterly bulletin, the Arabol Adhesive Advisor, filled with facts, news and views on the adhesives industry. It offers valuable time and money-saving tips, culled from Arabol's 76 years of adhesive experience. Write on your letterhead to: Editor, Arabol Adhesive Advisor, 110 East 42nd Street, New York 17, N. Y. There will be no charge, of course.

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McALLEN, TEX. • PHILADELPHIA • BOSTON • DENVER • TAMPA • LONDON, ENG.

Plants & People

[*Continued from page 135*]

region has been divided into two new regions. **Will Webster** becomes New England region mgr.; **Robert Christoverson** becomes New York region mgr. The Los Angeles region also has been regrouped into two units. **Robert Gibbons** is the new mgr. in charge of offices in San Francisco, Seattle, Denver and Salt Lake City. **Charles Shaw** will manage the southern half of California and Arizona.

Ferree

P. J. Ferree has been named v.p. and gen. mgr. of **Bemis Bro. Bag. Co.'s Air Formed Products Corp.** sub. at Nashua, N. H. Air Formed Products is a developer and producer of blow-molded plastic containers. **A. F. Keating** succeeds Mr. Ferree as mgr. of the Bemis bag plant in Flemington, N. J. **A. L. Park,** mgr. of the company's paper specialty plants, has been appointed mgr. of the St. Louis bag plant and sales div. He joined Bemis in 1949.

A. G. McAdams, sales mgr. of **Resina Automatic Machinery Co.,** Brooklyn, has resigned due to ill health. He joined the firm in 1958 as asst. sales mgr. and was promoted to sales mgr. the following year. His successor will be named at a future date.

Lawrence E. de Neufville becomes exec. asst. to the pres. of the **Plax Corp.,** Hartford. Two new district sales mgrs. for containers—**Samuel F. Peirce,** New York, and **Wayne M. Smythe,** West Coast—have also been appointed. Plax is a manufacturer of plastic containers and oriented polystyrene sheet and film products.

Riegel Paper Corp., New York, has made three organizational changes. **N. W. Postweiler** has been appointed sales v.p. of the firm's Folding Carton Div. **C. W. Hoffman** has been appointed sales v.p. of the Flexible Packaging Div. **R. W. Schlienz** succeeds Mr. Hoffman as Midwest regional sales mgr.

Dewar

Neil R. Dewar has been appointed mgr. of industrial foil, laminations and rigid foil containers for the Products Div. of **Kaiser Aluminum & Chemical Corp.,** Oakland, Calif. In this capacity, Mr. Dewar has assumed responsibility for those products and the operations of the div.'s container plants in Wanatah, Ind., and Los Angeles, and the foil-processing plant in Belpre, O.

Donald H. Brewer and **Ralph M. Knight,** both v.p.'s of **Rexall Drug & Chemical Co.,** Los Angeles, have been elected to the firm's board of directors. Mr. Brewer has been in charge of the firm's plastic processing operations and

Plants & People [Cont'd]

Mr. Knight has been head of the company's Chemical Div.

Imco Container Co., a div. of Rexall has named **Leroy E. Durkin** as sales mgr. of its Eastern Div., which covers the 17 states along the Atlantic seaboard. **Leonard F. Albers** is new sales mgr. in the Central Div., which is composed of 10 Central states and Canada.

New product sales mgr. for beer and carbonated-beverage cans at **Continental Can Co.**, New York, is **A. C. Elliott.**

Elliott

Previously he was sales mgr. for general line non-processed-food cans in the firm's Eastern Metal Div. Continental's Plastic Bottle & Tube Div. has opened a new plant for the production of plastic bottles in Berea, O. The 56,000-sq.-ft. facility will house the company's new high-speed blow-molding equipment that is said to be capable of turning out 125 bottles per minute. Production in the new plant will center around 32-oz. bleach, detergent and industrial-chemical bottles. In Continental's Folding Carton & Drum Div., **R. A. Brooks** has become Boston district sales mgr.

D. B. Tingle has been named to the newly created post of asst. gen. mgr. and director of mktg. of **Armstrong Cork Co.'s** International Operations. Since joining the Lancaster, Pa., glass-container manufacturing firm in 1934, Mr. Tingle has served in various sales assignments and as Buffalo district mgr. In 1953 he became v.p. and gen. sales mgr. of **Armstrong Cork Canada, Ltd.**, a post he held until his recent appointment. In his new post he will direct the marketing and selling functions of the company's international operations.

Tingle

Three sales-personnel changes have been made in **Anaconda Aluminum Co.'s** West Coast, New York and St. Louis offices. On the West Coast, **Paul T. Persons** is the new district mgr. The firm's Boston office has been combined with its New York office and **David W. Sargent, Jr.**, has been moved from Boston to take over as district mgr. of the expanded New York territory. **Philip Crane**, formerly in the Cleveland office, is now St. Louis district mgr. Anaconda Aluminum's home office is in Louisville.

Enjay Chemical Co., div. **Humble Oil & Refining Co.**, New York, has acquired the **Extrudo-Film Corp.**, New York. Extrudo produces polyethylene film and recently started production of polypropylene film.

The board of directors of **A. H. Wirz, Inc.**, Chester, Pa., have appointed **Townsend C. Cox, Jr.**, pres. and **Robert F. Cox** to board chairman. **H. Walter Rowan** becomes exec. v.p. and

Plants & People [*Cont'd*]

secy.-treas. The 125-year-old firm is a manufacturer of collapsible metal tubes and plastic containers.

New gen. mgr. of sales for **National Can Co.**, Chicago, is **Frank W. Considine.** He previously had been pres. of **Great Lakes Glass Co.** and v.p. of **National Dairy Corp.'s** Metro Glass Div.

Ogilvie

Norman J. Ogilvie has been appointed director of research and engineering for **Anchor Hocking Glass Corp.**, Lancaster, O. He will headquarter in the company's new laboratories in Lancaster. He joined the firm in 1939. **Paul R. Rector** has been named mgr. of container scheduling, sales services and finished-goods inventory for the company's Glass Container Div. Mr. Rector has been with A-H since 1934.

Dennison Mfg. Co., Framingham, Mass., has purchased **Eastman Tag & Label Co.**, Richmond, Calif. For the present Eastman will be operated as a wholly owned sub. Dennison has also granted a license to **AB Akerlund & Rausing**, Lund, Sweden, to manufacture equipment and printed heat-transfer labels for Dennison's Therimage process, used for achieving multicolor decoration on plastic bottles and films. The agreement covers all of Continental Europe.

Frank T. Gerould has been appointed mgr. of Dennison's Machine Systems Div. He had been national sales mgr. for the division. **William J. Collins**, formerly sales mgr. of the Philadelphia district for the Machine Systems Div. succeeds Mr. Gerould.

Roderick

Milprint, Inc., Milwaukee, has appointed two new v.p.'s. **Robert C. Roderick** has been named v.p. and gen. mgr. for manufacturing and **C. K. Billeb** becomes v.p. for engineering. In another appointment, **Wesley Corner**, who had been Milwaukee production art director since 1957, has been named Eastern area art director and will make his headquarters in Milprint's New York offices. Milprint is a sub. of **Philip Morris, Inc.**

Inpak Systems, Inc., New York packaging agency, has taken the 18th floor of 441 Lexington Ave., bringing together for the first time the six separate divisions making up the agency's services. According to the company, this move signifies the completion of the organization of Inpak. The six divisions are: Operations, Developments, Mechanical Packaging, Package Marketing, Technical Marketing and Patent Licensing.

Lawrence E. Heath has been named v.p. for sales of the **Miller & Van Winkle Co.** Paterson, N. J., div. **Conapac Corp.**, New York. Miller & Van Winkle manufactures automatic expandable polystyrene molding equipment.

Caspers Tin Plate Co., Chicago—a coater and lithographer of metal containers and closures—has promoted **Harold W. Cochran** to exec. v.p. He has been with the firm for 23 years and most recently was v.p. for sales.

Harry Sholl has resigned as v.p. for mktg. and a board member of **Chicago Printed String Co.**, Chicago. He had been with the company since 1948.

Fred W. Hoover, Jr., has joined **Continental Can Co.**, New York, as asst. to the pres. Mr. Hoover, formerly exec. v.p. of **Langendorf United Bakeries**, a West Coast bakery chain, has had 23 years of experience in the field of processing and marketing of food products.

The Bag Div. of **St. Regis Paper Co.**, New York, has re-organized its marketing group. The re-organization includes two major staff promotions and the appointment of individual product managers for agricultural chemical, food and rock products — the main commodity groups for which the division supplies bags. **John T. Walton** has been named sales director for the division. **Alfred A. Roetzer** succeeds Mr. Walton as mgr. of marketing services. Product mgrs. are: agricultural, **John H. Dively**; chemical, **Carl W. Olson**; food, **Arthur P. Simard**, and rock products, **John F. Gruber.**

Walton *Roetzer*

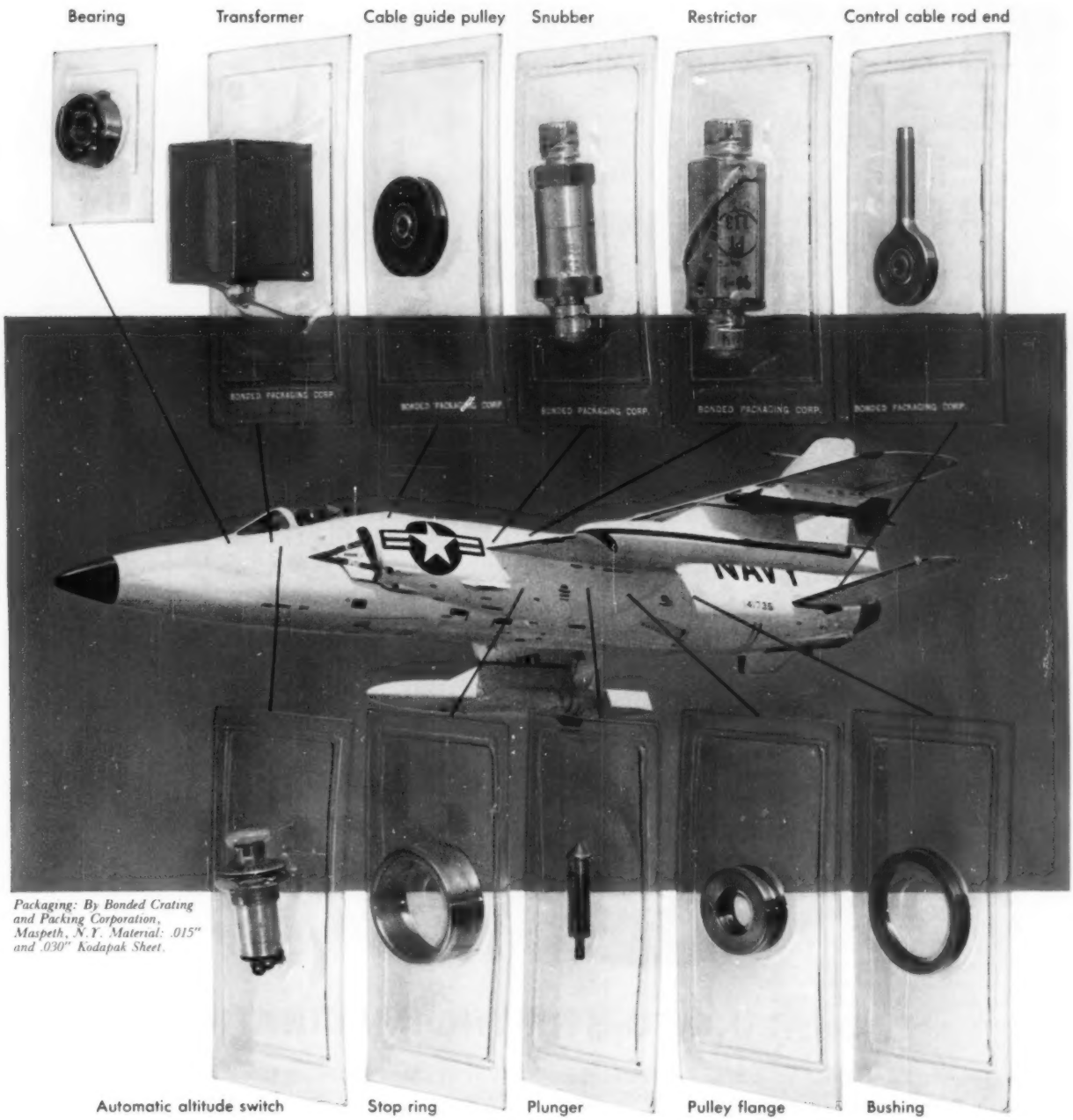
St. Regis' Engineering and Machine Div. has appointed **O. R. Titchenal** to mgr. of packaging machinery. In this new position, Mr. Titchenal will be responsible for engineering and development of packaging machinery as well as sales and technical liaison with other divisions and technical services to the International Div.

Ralph E. White, v.p., retired on Dec. 31 from **Container Corp. of America**, Chicago. He has served the company for 38 years and was elected v.p. in 1955. His direct responsibility has been for the company's shipping-container operations in Anderson, Ind., Cincinnati and Cleveland.

The Chicago industrial design firm, **Dave Chapman, Inc.**, has changed its name to **Dave Chapman, Goldsmith & Yamasaki, Inc.** Messrs. Goldsmith and Yamasaki have been with the firm since 1939 and 1943 respectively.

Consolidated Paper Co., Monroe, Mich., has acquired the **Meyers Corrugated Box Co.**, Cleveland. Meyers will be operated as a div. of the parent company and will maintain its headquarters in Cleveland.

William E. H. Jones, who had been managing director of **John Dale, Ltd.**, New Southgate, London, has been



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"Kodapak" is a trademark for Eastman's plastic sheet.

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named deputy chairman. He has also been appointed exec. director of the **Metal Closures Group**—another part of the **John Dale Organisation**—and will move his office, from New Southgate to 40 Brook St., London, W. 1, head office of Metal Closures. He retains his directorships of the other subsidiary companies. **Norman Draycott,** previously director and gen. mgr. of John Dale, Ltd., is now director and gen. mgr. of that firm's Packaging Divs., and will be located in New Southgate.

Bert Trois has been appointed to administer the flexible-packaging dept. of **Formed Container Corp.,** Orangeburg, N. Y. He formerly was with the **Print-A-Tube Div. of Lassiter-Riegel.** Formed Container manufactures extrusion-coated polyethylene packaging films.

Jonnard

Dr. Aimison Jonnard has been appointed v.p.-planning for **Celanese Chemical Co.,** a div. of **Celanese Corp. of America,** New York. He succeeds **Robert L. Mitchell** who was recently named a v.p. of **Celanese International Corp.** Since 1959 Dr. Jonnard had been associated with **U. S. Industrial Chemicals Co.,** New York, and previous to that spent 10 years with **Shell Chemical Co.,** also in New York. In his new post he will be responsible for both short- and long-term planning.

Creative Packaging, Inc., Indianapolis, has appointed **Edward L. Cox** as sales promotion mgr. for its **Paper Package Co.** div. He has been with Paper Package since 1954 and formerly was mgr. of plastics sales service.

Aldo S. Pero, former owner of **Packaging & Plastics Co.,** Pompton Plains, N. J., has now become sales mgr. for **Lee Packaging Laboratories, Inc.,** Brooklyn. Lee is a contract packager of liquids, powders and tablets, as well as a skin-, blister- and unit-packager.

Frain

Recently promoted to director of sales for **Downingtown Paper Co.'s** Packaging Div. was **T. H. Frain, Jr.** Mr. Frain has been asst. director of packaging sales for the Downingtown, Pa., firm since Sept., 1960. Prior to that he spent 12 years as a Downingtown sales representative in the Philadelphia area. He reports to **J. Gibson McIlvaine, Jr.,** v.p. of Downingtown.

Dr. Robert T. Hart has been appointed director of commercial development of **Oxford Paper Co.,** New York. He will report to **Harold M. Annis,** v.p. for research and development.

U. S. Industrial Chemicals Co.-International, a div. of **International Development Co. of National Distillers**

Plants & People [*Cont'd*]

& Chemical Corp. S.A., has opened a new polyethylene research evaluation and technical service laboratory and facility in Baar, Switzerland. The facility will also house the firm's sales organization.

Gurdon Simmons, formerly with **Einson-Freeman Co.,** has opened his own public-relations and merchandising consultant office in the Dale Bldg., Allendale, N. J. He will concern himself with display and package promotion.

National Cleveland Corp. has allocated $200,000 for development and expansion of its **Auto-Vac Co. Div., Fairfield,** Conn. The funds will be used to finance a stepped-up engineering program and to purchase additional manufacturing equipment. Auto-Vac manufactures thermoforming machines.

Frank H. Sack, III, has resumed his private practice as an industrial designer under the name of **Frank Sack Associates** at 900 Summit, Minneapolis 5. He will specialize in product, package, graphic and display design.

Stein, Hall & Co., New York, adhesives, and **Organa Trust,** Milan, Italy, have agreed to form a joint European company which will hold a major interest in **Pakistan Gum Industries, Ltd.** The new European company will perform research, development, technical and sales services for the firm.

Leo Adams, gen. mgr. of **Terafilm Corp.,** Orangeburg, N. Y., has been elected v.p. of the firm. The company is a supplier of plastic sheet and film.

Frank W. Egan & Co., Somerville, N. J. manufacturer of extrusion coating machines has just completed a $350,000 expansion program which doubles its plant facilities. The firm also makes machinery for the paper converting, printing and other industries.

Anderson

Filling the new post of sales coordinator at **Peerless Tube Corp.,** Bloomfield, N. J., is **Harold D. Anderson.** Formerly with **Standard Brands** in New York, Mr. Anderson is charged with the coordination of sales activities with the company's engineering, research and production departments. Peerless is a producer of collapsible metal tubes.

Promotions

James L. Robinson: from asst. sales mgr. to sales mgr., Cincinnati Shipping Container Div., **Container Corp. of America,** Chicago.

Howard L. Wessling: to product mgr.-labels, **Schmidt Lithograph Co.,** San Francisco.

Richard W. Phelps: to v.p., **Black-Clawson Co.,** New York. He will continue his responsibilities as gen. mgr. of the **Dilts Div.** in Fulton, N. Y.

Harold E. Hecken: to asst. mgr. of aerosol sales, **A. Schrader's Son, div. Scovill Mfg. Co.,** Brooklyn.

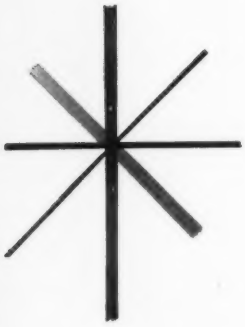
Warren E. Cain: to chief engineer, **Pittsburgh Plastics Div., Heekin Can Co.,** New Castle, Pa.

Obituaries

John J. Nagle, retired pres. and board chairman of **Crown Cork & Seal Co.,** Philadephia, was killed Nov. 4 when he was struck by an auto near his summer home in Spring Lake, N. J. He was 69 years old. He had been elected pres. in 1945 and board chairman a year later.

E. McGregor Jones, who had recently assumed the post of new products mgr. for the Glass Container Div. of **Owens-Illinois Glass Co.,** Toledo died at his home recently of a heart attack. Previous to his recent promotion he had been Central Regional sales mgr. for the div. He had been with O-I since 1934 and was 49 years old.

Sam Sawyer, who had been with **American Can Co.'s** Dixie Cup Div. since 1922, died recently in Easton, Pa., after a prolonged illness. He was 60 years old. For many years he had been national dairy products sales mgr. for Dixie Cup. Mr. Sawyer is credited as one of the developers of the paper-cup packaging concept.



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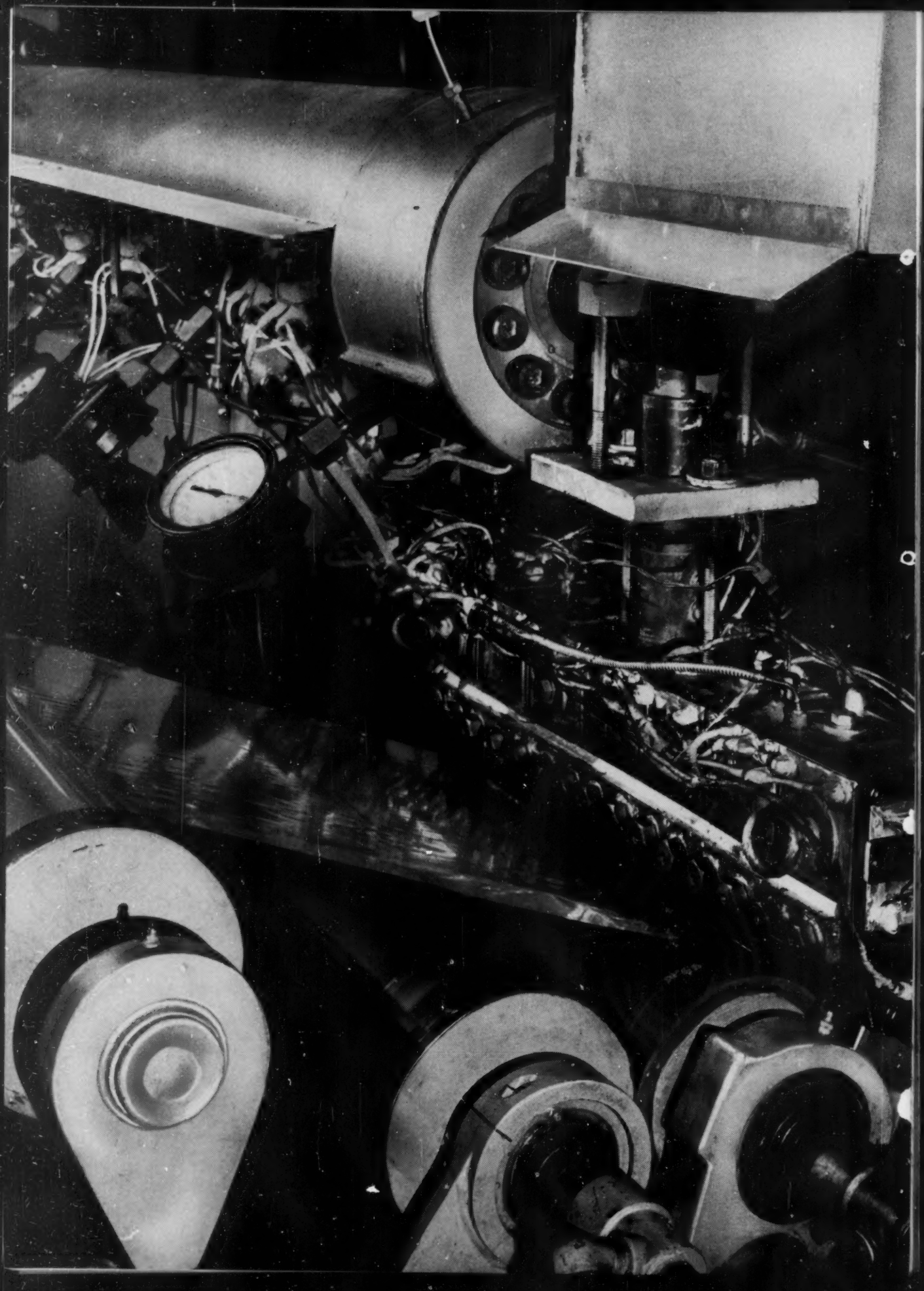

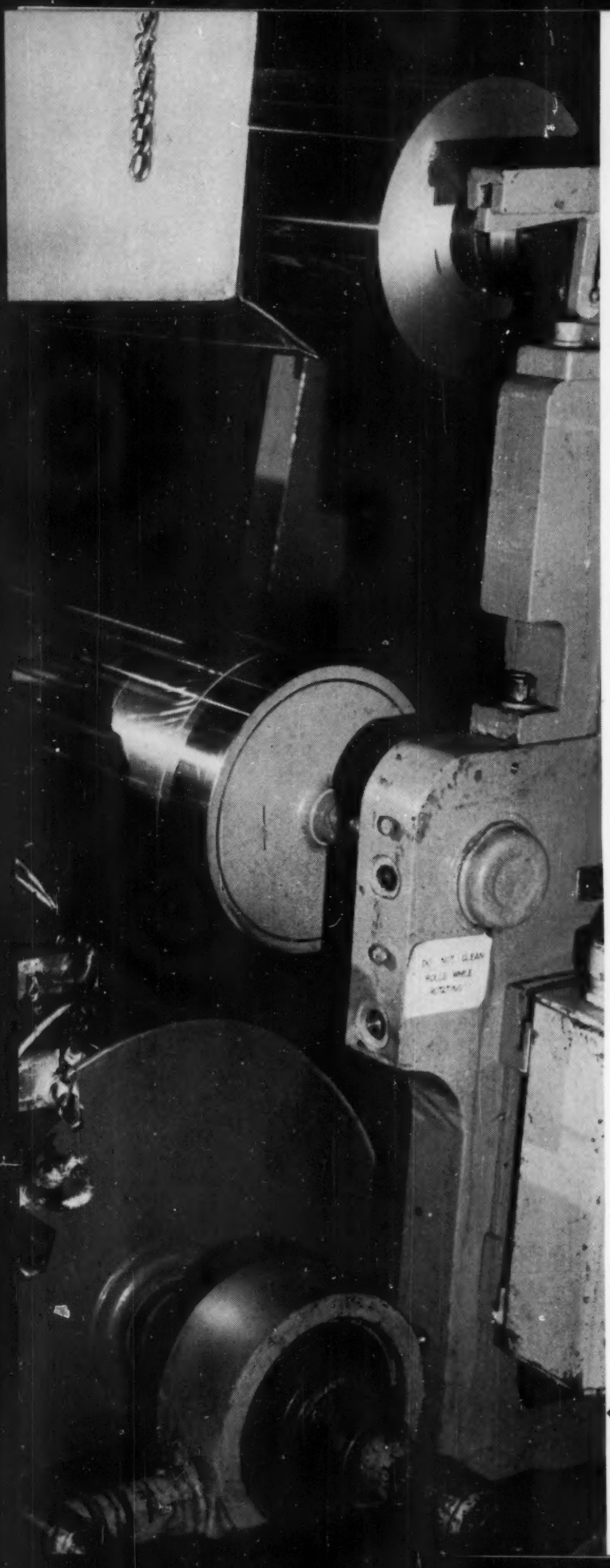

Du Pont cellophane makes news...

New "K" 204 promises more reliable, more uniform cello-poly packages!

New Du Pont "K"* cellophane 204 is important news for packagers, especially those who want to capitalize on the growing opportunities offered by extrusion coated or laminated cellophane packages. "K" 204 is significant because of the uniformly high level of adhesion between its polymer coating and the cellulose base sheet.

Here's why this is important: Cellophane gets its different properties from the different coatings applied to the plain cellulose sheet. The strength of the bond between the coating and the base sheet is one of the big factors affecting the stability of cellophane-polyethylene packages.

The stronger adhesion in "K" 204 results in cellophane-polyethylene combination packages that are unsurpassed in reliability and uniformity.

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. . . THROUGH CHEMISTRY

New Du Pont "K" cellophane 204 is designed specifically for extrusion coating (shown here) and laminating with polyethylene.

for packaging . . .

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Reg. U. S. Pat Off

PLASTIC INJECTION MOLDING MACHINE

"Very successful low-cost production of Nalgene test tube closures,"
reports Nalge Co., Inc., Rochester, N. Y.

"We are using our MINI-JECTOR to make closures for Nalgene test tubes. These are friction-fit closures, made of polypropylene, in a triple cavity mold. Of course other similar items could be tooled. Almost any material can be run in the MINI-JECTOR—conventional polyethylene linear polyethylene, nylon, etc."—Nalge Co., Inc.

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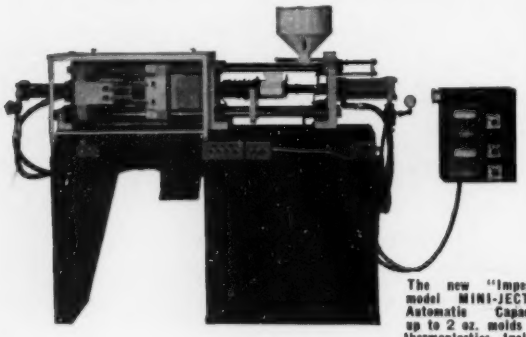

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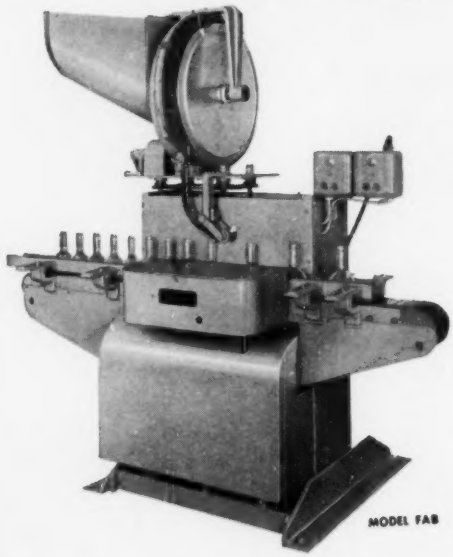

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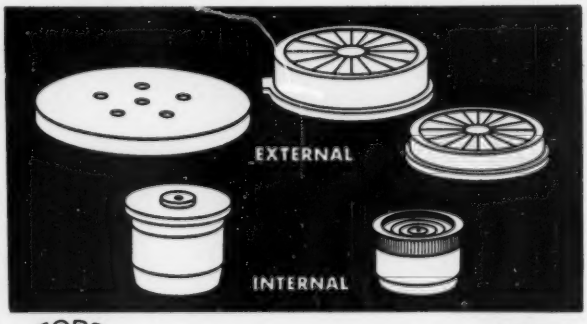

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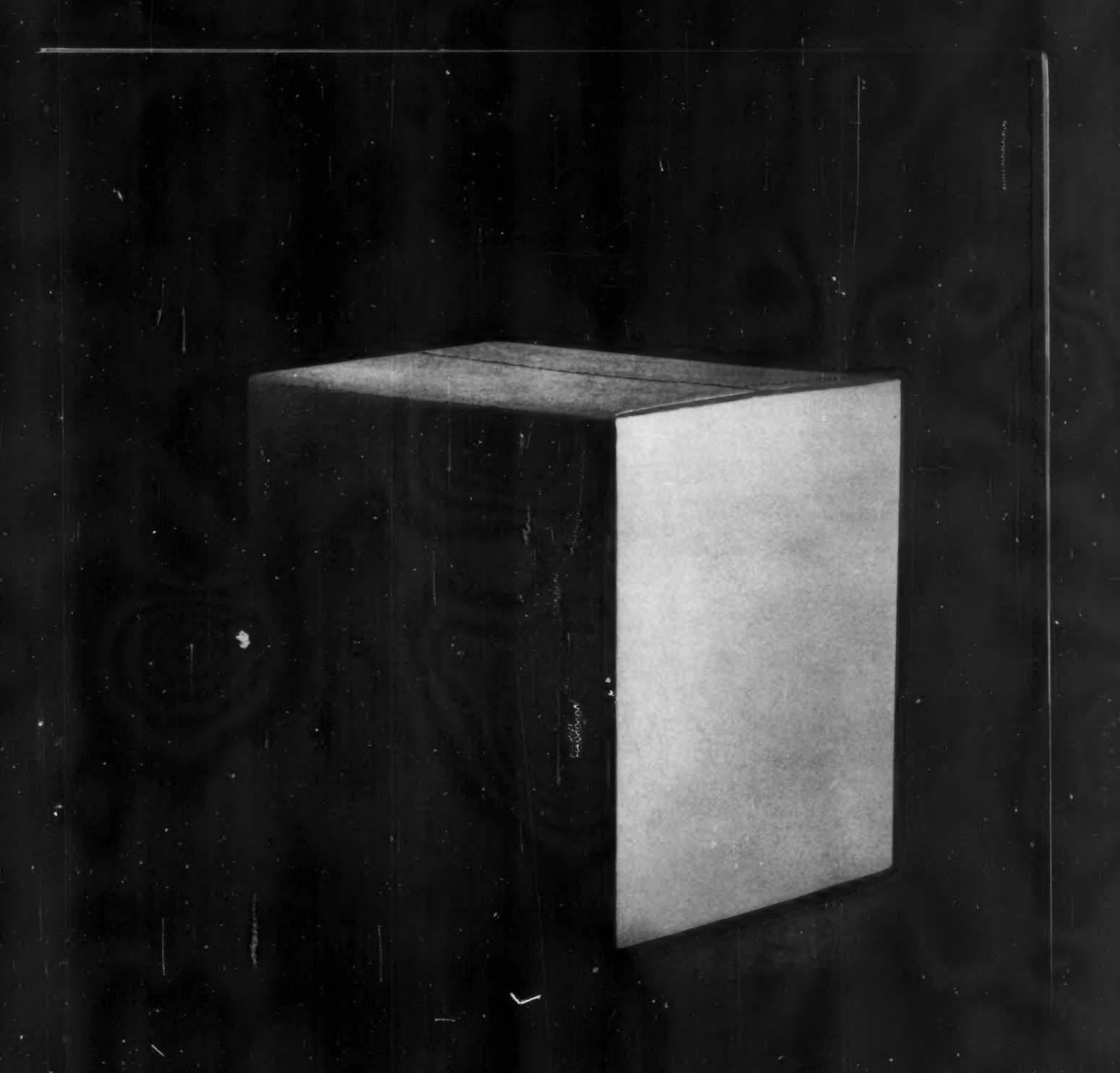

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EQUIPMENT & MATERIALS

[*Continued from page 52*]

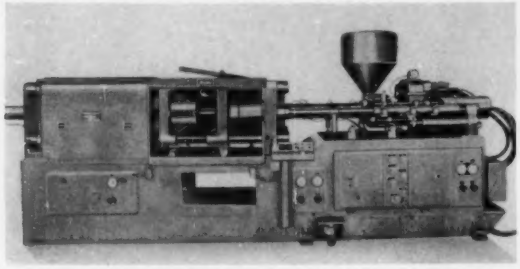
excellent flow characteristics with good permanence properties and surface hardness, is offered by Eastman Chemical. The supplier reports that the new formula, Tenite Propionate 325, is easy to mold and is therefore especially advantageous in applications normally hampered by mold-filling difficulties. Articles molded of the formula are said to be serviceable over a wide temperature range, to have good impact strength and to be generally unaffected by prolonged outdoor exposure. The material's flow properties make it suitable for extrusion, blow molding or the thermoforming of extruded sheet, the supplier notes. It is available in clear transparent and a wide range of colored transparents as well as in translucent, opaque, pearlescent and variegated colors. Among the suggested uses for the new formula is the production of containers. *Eastman Chemical Products, Inc., Kingsport, Tenn.*

Low-cost pressure formers

Thermtrol Corp. has introduced two low-cost pressure formers. Illustrated is the Model 200 semi-automatic unit. It utilizes a roll feed and performs forming and cutting in one operation. Double-action cutting is said to make possible fast production of plastic parts with or without flange edges and also is said to permit different thicknesses to be manufactured without adjustment of the machine or mold. It is reported to be especially designed to handle such materials as oriented polystyrene. Cycles as low as 2 to 4 sec. are claimed to be average for heating, forming and cutting—due to fast mechanical action and accurate heater design. One operator is needed. Similar in operation, the Model 100 also features 2- to 4-sec. cycles. A manual close starts the timers, which control the heating, forming, cooling and cutting operations in proper sequence. The operator then removes the finished part and recycles the machine. More information on both machines is available from *Thermtrol Corp., Southport, Conn.*

Imported injection molder

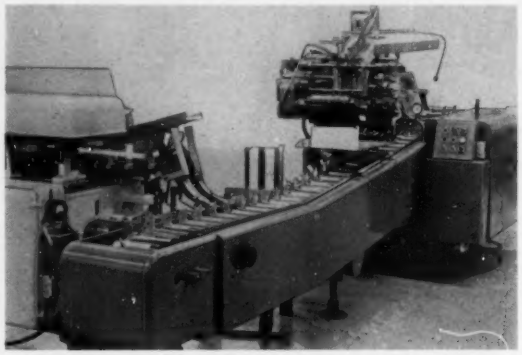
A European screw-piston-type injection-molding machine which has been adapted to American electrical and mechanical specifications is being marketed in this country and Canada by Modern Plastic Machinery. Manufactured by



Albert Stübbe Maschinenfabrik of West Germany, the unit features fast cycling (to 24 per minute), low working temperatures, ease of operation and adjustability, says the supplier. Other advantages cited for the machine include: mold-closing power up to 500 tons, adjustable back pressure for hard-flow materials and a shot cavity of up to 64 oz. *Modern Plastic Machinery Corp., Clifton, N. J.*

High-speed, versatile cartoner

A new high-speed, continuous-motion, horizontal cartoner is being offered by Crompton & Knowles' Redington Div. The automatic unit can handle cartons in sizes ranging from ¾



by 1 by 2 in. to 3 by 3 by 8 in. Cartoning speeds in excess of 600 per minute in certain applications are claimed by the supplier. It is said to be suited for food, drug, candy, industrial and other types of tube, bottle, jar and vial cartoning. The unit includes a continuous-motion filler-conveyor which gently inserts the contents of the article pocket into the carton. The tucker mechanism is driven by tucker gears operating in oil. Three-point suspension to the tucker bar reportedly provides accurate tucking at both low and high speeds. It can be equipped with an automatic tube-transfer mechanism to take the output of one or more high-speed tube-filling machines, the company says. *Crompton & Knowles Packaging Corp., Redington Div., Bellwood, Ill.*

High-yield polymer-coated cellophane

Another new entry into the highly competitive bread-wrap market is Olin's polymer-coated, high-yield cellophane which is priced at five cents a pound below the film it replaces. The new film, designated 250 "V", is designed to offer improved product protection, dimensional stability, clarity and sparkle. It is also said to have superior resistance to puckering and wrinkling. Its yield averages 25,000 sq. in. per pound, the supplier notes. Although specifically designed for bread wrapping, the film is also reported to be suitable for overwrapping small boxes and trays and as a direct wrap for cup cakes and sliced cake. *Olin Mathieson Chemical Corp., 460 Park Ave., New York 22.*

Water-emulsion aluminum lubricant

A new water-emulsion lubricant for aluminum, called Striplube, has been developed by Fibre Products Research Center. The emulsion facilitates deep drawing and stamping of foil or sheet without the need for subsequent degreasing, says the supplier. Foil treated with the emulsion reportedly can be printed without difficulty. Paper-foil laminates can also be treated to increase their slip and non-blocking properties. The new material is non-staining and all ingredients are F&DA approved. *Fibre Products Research Center, Inc., Beaver Falls, N. Y.*

Predetermining electronic counter

A new predetermining electronic counter—Tally Count Model 850—has been added to Standard Instrument Corp.'s line. The TC-850 features low initial cost, simplicity, ruggedness, flexibility and adaptability, according to the supplier. The counter has presettable counter units, which are available in one-, two-, three- or four-digit models. A plug-in six-digit batch register is an optional accessory. Maximum counting rate is 3,000 per hour and automatic reset and restart occurs with 0.005 seconds. *Standard Instrument Corp., 657 Broadway, New York 12.*

POUCH PAPERS

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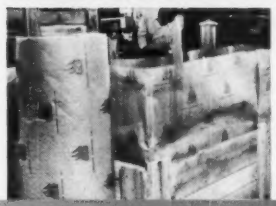

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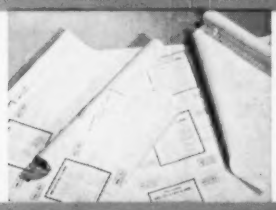
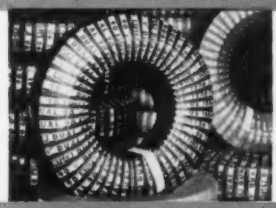


BULK WRAPPING



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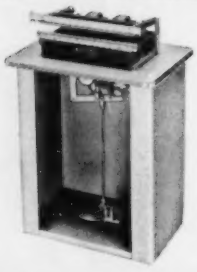

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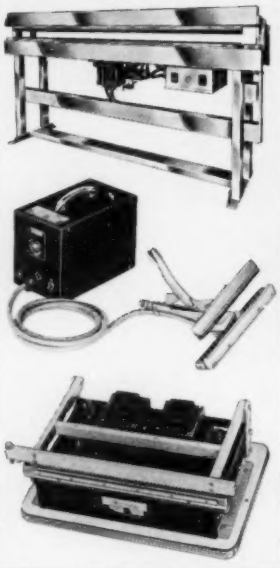

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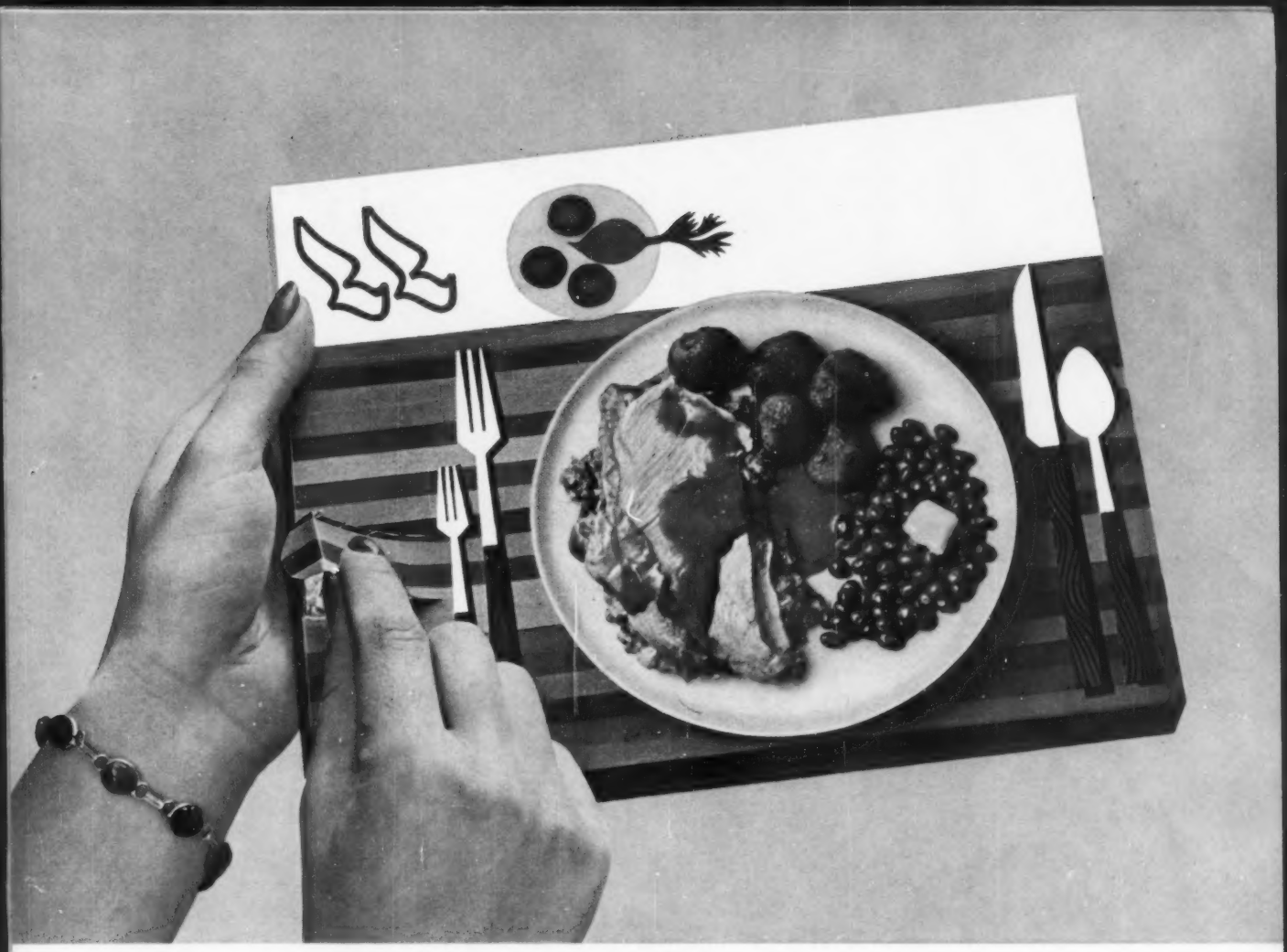

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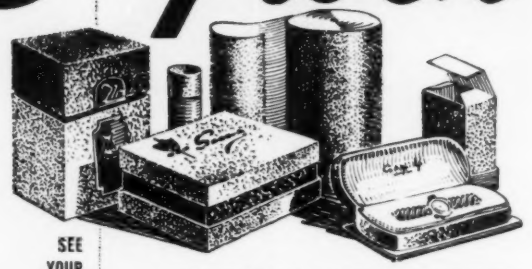

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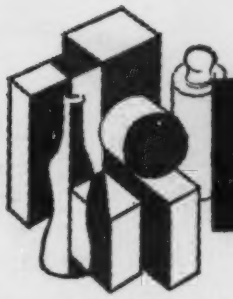

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Equipment and Machinery

MOUNTING, COMBINING, ASSEMBLING. Illustrated folder describes line of mounting, combining and assembling machinery for production of record jackets, display cards, greeting cards, photo mounts, etc. New Jersey Machine Corp. **(150-A)**

AEROSOL PRESSURE BURETTE AND HAND CRIMPER. Illustrated sheets describe pressure burette for small lot and laboratory work. Burette is portable, calibrated in 5 cc graduations. Second illustrated sheet describes hand crimper for crimping aerosol valve caps. Aerosol Machinery Co. **(151-A)**

PHOTO-COMPOSING MACHINE. 2 illustrated data sheets describe two automatic step and repeat and photo composing machines with punch card control. Used for labels, stickers, wrappers, etc. Entire job is produced automatically on film, glass or metal plates. Royal Zenith Corp. **(152-A)**

PACKAGING MACHINERY. 4-page brochure pictures and gives description of fully automatic case former, accumulator, packer and sealer all in one unit. Machine automatically selects, feeds, opens, and forms a case, packs it in any desired pattern and seals it ready for the road. Schroeder Machines Corp. **(153-A)**

CASE UNLOADER & UNSCRAMBLER. Automatic and fully adjustable case unloader and unscrambler which handles all glass container sizes in commercial use is described in this 4-page folder. ABC Packaging Machine Corp. **(154-A)**

PAPER DRILLING MACHINE. 6-panel folder describes a paper drilling machine in either fully or semi-automatic design which can be equipped for many paper drilling operations including vee slotting, open side cutting, thumbhole slotting, etc. Specifications are included. SOAG Machinery Co. **(155-A)**

SCREEN PRINTING MACHINE. Data sheet describes a screen printing machine for cylindrical and sphere objects of glass, metal, plastic, wood and rubber. Accommodating objects up to 4 inches in diameter. Dependable Compressor & Machine Co. **(156-A)**

CARTON FORMING MACHINE. 4-page illustrated folder describes carton forming machine which will handle stock calipering from .015" to .050", including single faced and single wall corrugated forming them into tray type cartons, 1 piece, 2 piece or with hinged cover. United Shoe Machinery Corp. **(157-A)**

UNCASERS. Folder illustrates and describes a line of automatic uncasers for cans, jars and bottles in metal and glass which uncase up to 50 cases per minute. Schematic illustrates dimensions and operation of machine. Lodge & Shipley Co., Climax Products Div. **(158-A)**

LABEL PRESS. Illustrated folder describes automatic label press which hot stamps and die cuts in one operation requiring no wet inks or liquids. Rolls of self-adhesive, gummed, matt, glossy or rubberized paper can be used. Gem-Brite Co. **(159-A)**

AUTOMATIC WEIGHING EQUIPMENT. 12-page brochure details action of check-weighers, weight monitors and classifiers for under and overfill control. Information on 2, 3, 4 and 5-channel weight status segregation. Model descriptions, applications and case histories are included. Illumitronic Systems Corp. **(160-A)**

MULTI-PACK CARTONING MACHINE. 4-page folder describes continuous motion multi-pack cartoning machine which cartons and closes 12 oz. bottles and cans as well as 16 oz. cans in 6 or 8 packs, at a speed of 100 packs per minute. Old Dominion Box Co. **(161-A)**

TUBULAR CONVEYORS. Folder discusses tubular conveyors designed for flowable wet or dry material through conveyor assembly consisting of solid circular flights mounted on sealed-pin chains which operates within tubes. Includes conveyor capacity chart and various illustrations. Hapman Corp., Conveyor Div. **(162-A)**

ELECTRIC PRINTER. 1-page technical bulletin details operation of and applications for an electric printer, used for spot printing of individual products or for located imprint on web material. Detailed specification data is included. Bell-Mark Corp. **(163-A)**

PARTITION ASSEMBLER. 4-page illustrated booklet describes an automatic partition assembler. Permits square or rectangular cell patterns ranging from one inch up. Buffer or air cells may also be assembled. Includes specifications and operating data. Huntingdon Industries, Inc. **(164-A)**

SHRINK PACKAGING MACHINE. 4-page booklet illustrates and describes a shrink packaging machine which handles blanks up to 14" x 18". General specifications are included. The Nevins Co. **(165-A)**

STAMPING PRESS. 3 illustrated data sheets illustrate and describe a roll leaf stamping press for hot stamping on cloth, paper, leather, wood, fibre and soft or hard plastic. Speed adjustment permits up to 40 impressions per minute. Handles leaf to 6½" wide. Peerless Roll Leaf Co., Inc. **(166-A)**

CONTINUOUS MOTION MACHINES. Illustrated 8-page compendium describes a line of continuous motion machines for capping, aerosol valve inserting, spray nozzle inserting, valve and dip tube assembly, case loading, component parts assembly and special packaging machines. PMC Industries. **(167-A)**

TWO COLOR PRINTER-SLOTTER MACHINE. 4-page data sheet illustrates and describes printer-slotter machine which prints, creases, slots and trims container blanks. Handles all calipers of board from "B" flute to double-double board. Built in two sizes: 55" by 108" and 55" by 127". S&S Corrugated Paper Machinery Co., Inc. **(168-A)**

PACKAGING MACHINES. Illustrated data sheet describes packaging machine for pharmaceuticals with speeds from 75 to 300 per minute. Machine can be provided with printer and coding strip cut-off. Pak-Rapid Inc. **(169-A)**

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172-A	173-A	174-A	175-A	176-A	177-A	178-A	179-A	180-A	181-A	182-A
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GLUE GUNS. 4-page catalog describes many standard glue gun systems. Included are manual and machine-mount units for ribbon coating, stripping and spotting flat surfaces; hole, groove and corner gluing. Glue guns to meet unusual application needs are also illustrated. John P. Fox Co. **(170-A)**

MARKING MACHINES. 26 page illustrated booklet describes a line of stencil cutting machines, fountain brushes, stencil inks, stencil rollers, markers and electric tape machines. Includes an ink chart for ink selection. Marsh Stencil Machine Co. **(171-A)**

MARKING MACHINES. 4-page booklet illustrates and describes a marking machine for 3-color printing on flat or oval bottles, jars, etc., by dry offset method. Method of operation, inking arrangement, motor drive, accessories and technical specifications are also included. International Eastern Co. **(172-A)**

TYING MACHINE. Folder describes tying machine which crossties 25 to 30 packages per minute or 45 to 50 single tied packages per minute. Machine uses 3 to 24 ply cotton twine and is controlled by foot pedal or automatic trip lever. Felins Tying Machine Co. **(173-A)**

FILLING MACHINES. 6-panel folder describes line of automatic fillers for liquids, semi-liquids and semi-solids. Technical data and illustrations are included on 12 machines for various products. The Filler Machine Co., Inc. **(174-A)**

Packaging Forms

CONTAINERS, TUBING. Illustrated catalog describes line of containers and tubing—including plain can, friction plug can, convolute can. Also covers tube with telescope ends, 2-piece telescope with curled and disced ends, 3-piece telescope with metal ends, etc. General information, dimensions, other data. The Cleveland Container Co. **(175-A)**

PLASTIC VIALS, TUBES. 8-page illustrated book describes line of plastic vials and tubes for packaging styptic pencils, tablets, pills, fishing tackle and flies, etc. Lusteroid Container Co., Inc. **(176-A)**

CANS AND TUBES. 4-page brochure illustrates and gives important information on a wide variety of packaging and mailing fibre cans and tubes. Describes selection of closures and interior and exterior linings. Cin-Made Corp. **(177-A)**

PLASTIC CONTAINERS. Illustrated, spiral-bound catalog describes line of plastic containers including oval, oblong and modified oblong, beveled square, tapered round, cylindrical, Boston-round, stock acid bottles. Also includes plugs and caps. Imco Container Corp. **(178-A)**

AEROSOL VALVES, CONTAINERS. 16-page illustrated book describes line of aerosol valves and complete dispensers. Includes valves for metal containers; valves for glass, plastic and small metal containers. Also valve actuators and caps, and complete aerosol dispensers. The Risdon Mfg. Co. **(179-A)**

NEW CORRUGATED CONTAINERS. Brochure which folds into a replica of a shipping container with pouring spout. Describes these containers which are designed for automatic packaging of dense or fragile products and are tailored to specific needs. Mead Containers, Division of the Mead Corp. **(180-A)**

STOCK BAGS. 18-page illustrated brochure describes cellophane and polyethylene flat bags . . . flat bags for textiles . . . flat pouches . . . satchel bottom bags of cellophane . . . square bags, etc. Descriptions, sizes, other data. The Dobeckmun Co. **(181-A)**

POLYETHYLENE BAGS. 6-panel folder features information and sample of polyethylene bag for a variety of products. Bag is designed for peg board display, and is of single unit construction, with bottom opening and does not require paper header or cardboard insert. Northland Bag Corp. **(182-A)**

Materials

POLYSTYRENES. 24-page booklet on this company's polystyrenes gives applications and types for normal and modified polystyrenes; general information, design considerations, fabricating techniques, finishing operations, etc. Plastics Div., Koppers Co., Inc. **(183-A)**

FLUOROHALOCARBON PACKAGING FILMS. 6-page illustrated booklet gives properties of "family" of fluorohalocarbon films. Films are sterilizable by steam, irradiation or chemical means, can be heat formed, heat sealed or heat laminated. General Chemical Div., Allied Chem. Corp. **(184-A)**

POLYETHYLENE. 12-page illustrated booklet describes new high-density polyethylene for the packaging field. Physical, chemical and electrical properties. Also, specific advantages, features, grades and applications. Goodrich-Gulf Chemicals, Inc. **(185-A)**

GLASSINE & GREASEPROOF PAPERS. Booklet contains 16 samples of glassine and greaseproof papers for protective packaging. Includes plain, waxed, treated, coated and wax laminated samples for various packaging requirements. Hamersley Mfg. Co. **(186-A)**

PACKAGING WAXES. 12-page technical booklet features the "slip properties" of paraffin and microcrystalline waxes. Includes 20 different graphs showing penetration, solid- and liquid-state viscosities, density and solubility in various commercial solvents. Sun Oil Co. **(187-A)**

Supplies and Services

PACKING & SHIPPING IDEAS. 16-page fully illustrated booklet discusses various methods for improving packing and shipping operations. Includes information on sealing systems, printing, coding, dating, identifying and filament tape. Better Packages, Inc. **(188-A)**

PRICE-MARKING LABELS. 4-page, full color brochure describes and illustrates stock and custom printed labels in standard sizes and shapes. Includes details on pressure-sensitive labels as well as a label price imprinter and labels for use with marking machines. Avery Label Co. **(189-A)**

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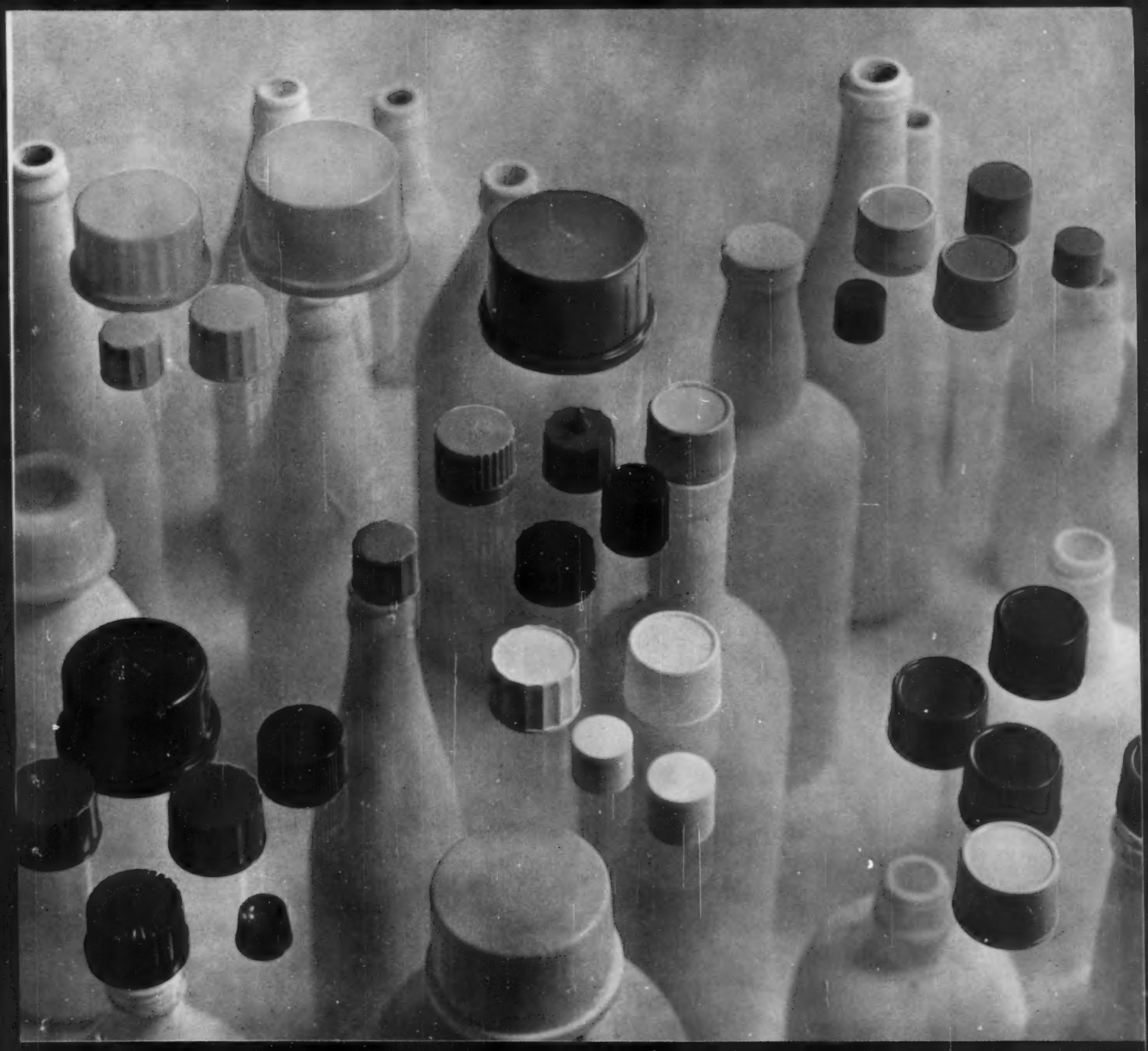


POLYPROPYLENE closures, a "plus" for your product

Top your container with a MOPLEN closure, any color, any style. MOPLEN polypropylene with its excellent chemical resistance, ease of moldability and dimensional stability opens new frontiers for the design and production of closures with unique customer appeal. MOPLEN adds sales impact to your product. Polypropylene is an original development of Montecatini. Scores of commercial applications have proven the high performance of MOPLEN for more than three years. MOPLEN is now being produced in the United States by Montecatini's subsidiary, Novamont. Technical assistance and literature as well as a list of thermoplastic closure suppliers are available to you through Novamont's and Montecatini's representative in the U. S.: **Chemore Corporation,** Dept. B, 100 E. 42nd St., New York City. YU 6-7575.

MOPLEN *a product of* NOVAMONT

FOR YOUR INFORMATION

The Packaging Machinery Mfrs. Institute has just issued the fourth edition of the *Official Packaging Machinery Directory*. The new directory lists 175 trade names, 76 types-of-packaging categories, 163 types-of-operation categories and PMMI member companies. The inclusion of a cross-reference index facilitates the finding of desired information. Copies may be purchased from the institute (at 60 E. 42 St., New York 17) at $7.50 per copy.

A new book, written for marketing directors and for advertising, sales, packaging and design executives, has been published by **Business Publications Ltd.**, London, S.E.1. Entitled *The Silent Salesman, How To Develop Packaging That Sells*, the book was written by **James Pilditch**, managing director of Packaging Design Assoc., Ltd. The volume has 188 pages, including 16 pages of black and white photos and four pages of color illustrations. It contains 11 chapters, covering such topics as: "Why Packaging Design Matters in Marketing," "Choosing the Right Materials," "When To Use Research," "The Design Program" and others. The book is available at $4.90 from the publisher or **B. T. Batsford, Ltd.**, 4 Fitzhardinge St., Portman Sq., London W.1.

The **Society of Packaging & Handling Engineers** is sponsoring a $1,000 National Professional Papers Contest that is open to both members and non-members. Groups or individuals can submit papers in the administrative section on the general subject of "Effective Management of Packaging and Handling in a Manufacturing Activity." The technical section offers a choice of general subjects including: "The Problem of Fragility in Packaging And Handling," "Use of Computers in Suspension System Design," "Proving Package Design by Test," "Correlating Abstract Data to Practical Application" and "Minimizing Cost in the Selection of Cushioning." Entrants must file notice to compete before Jan. 31 with the SPHE National Professional Papers Contest chmn., Fletcher Day, Cannon Electric Co., P.O. Box 2316, Terminal Annex, Los Angeles 54.

More than 50 technical papers covering a wide range of topics are presented in the proceedings of the 47th mid-year meeting of the **Chemical Specialties Mfrs. Assn.**, just published. The 221-page volume is available postpaid from CSMA, 50 E. 41 St., New York 17, at $7.50 per copy.

Among the highlights of the recent **10th Canadian National Package Exposition** was a display of Italian consumer packages of food, confectionery, clothing, wines and liquors. The display was designed to show some of the latest packaging techniques applicable to the European Common Market.

H. W. Nichols, Jr., Fox Paper Co., Lockland, O., has been elected a director of the **National Paperboard Assn.**

Charles Turcotte has been appointed director of promotion and eastern office mgr. of the **Lithographers & Printers National Assn.** He succeeds **Herb Morse**, who has resigned to become director of public relations of the Diamond National Corp.

Federal Paper Board Co., Bogata, N. J., has been awarded a bronze Oscar for the best 1960 annual report in the fibre-container industry. The trophy, given by *Financial World* after selection by an independent board of judges, was presented at an awards presentation dinner in New York.

The Eastern Chapter of the **Society of Packaging & Materials Handling Engineers** has prepared a glossary of definitions—including specifications and trade names—for package cushioning. The 34-page volume is available at $1 per copy. Also obtainable is a seven-page bibliography of package cushioning which is priced at 30 cents. Copies may be ordered through the Eastern Chapter or from Alfred D. Brown, v.p.-sales, Herculite Protective Fabrics Corp., 661 Fourth St., Newark 7.

Just published by **Printing Developments, Inc.**, a wholly owned sub. of **Time, Inc.**, New York, is the first issue of a new graphic-arts publication, **Printing Developments and Ideas from PDI.** It is to be issued quarterly and can be obtained by writing to PDI, Time & Life Bldg., New York 20.

Peerless Tube Co. has initiated publication of *The Peerless Report*. The periodical contains stories about recent developments in metal tube and aerosol packaging as they relate to the cosmetic, toiletry, drug, pharmaceutical and other industries. It is directed to the stockholders of the company as well as its customers, suppliers and employees. It is available without charge from company headquarters in Bloomfield, N.J.

Better Packages, Inc., Shelton, Conn., makers of the Better Pack and Counterboy lines of tape sealers, has made available an "idea" booklet. The booklet contains 20 ideas that the firm believes will make users' sealing operations faster, more efficient and/or lower in cost. It may be obtained free of charge from any of the firm's regional distributors or from the company.

For the third consecutive year, **Allied Chemical Co.'s General Chemical Div.** has renewed its $3,000 grant-in-aid to **St. John's University** College of Pharmacy, Jamaica, N. Y. The grant-in-aid is for the aerosol research program which was initiated in 1959 under **Dr. John J. Sciarra**, assoc. professor of pharmaceutical chemistry. The program has been and will continue to be concerned with the solubility and stability of pharmaceuticals in aerosols. Allied's General Chemical Div. is a supplier of propellants.

Skin packaging for industrial and consumer items is the subject of a jointly issued bulletin from **Union Carbide Development Co.** and **Union Carbide Plastics Co.**, both divs. of **Union Carbide Corp.** It gives an explanation of skin-packaging operations and cites case histories to show the economy, adaptability and protection afforded by the method. It is available without charge from the company at 270 Park Ave., New York 17.

The word 'and' has been inserted into the name of the former American Society for Testing Materials, making the organization's new name **American Society for Testing and Materials.** The society notes that the change places added emphasis on its research work into the nature of materials. ASTM was founded in 1898.

Among the new v.p.'s chosen to head the **American Management Assn.'s** operating divisions is **Leland R. Srigley**, who will be in charge of AMA's Packaging Div. Mr. Srigley is director of industrial engineering for **Parke, Davis & Co.**, Detroit.

Events

Jan. 7-10—**Super Market Institute**, mid-year conference, Americana Hotel, Bal Harbour, Fla.

Jan. 7-11—**National Retail Merchants Assn.**, 51st anniversary convention, Statler Hilton Hotel, New York.

Jan. 8-10—**American Management Assn.**, Orientation Seminar, Foams and Expanded Plastics for Packaging, Shipping and Handling, Barbizon-Plaza Hotel, New York.

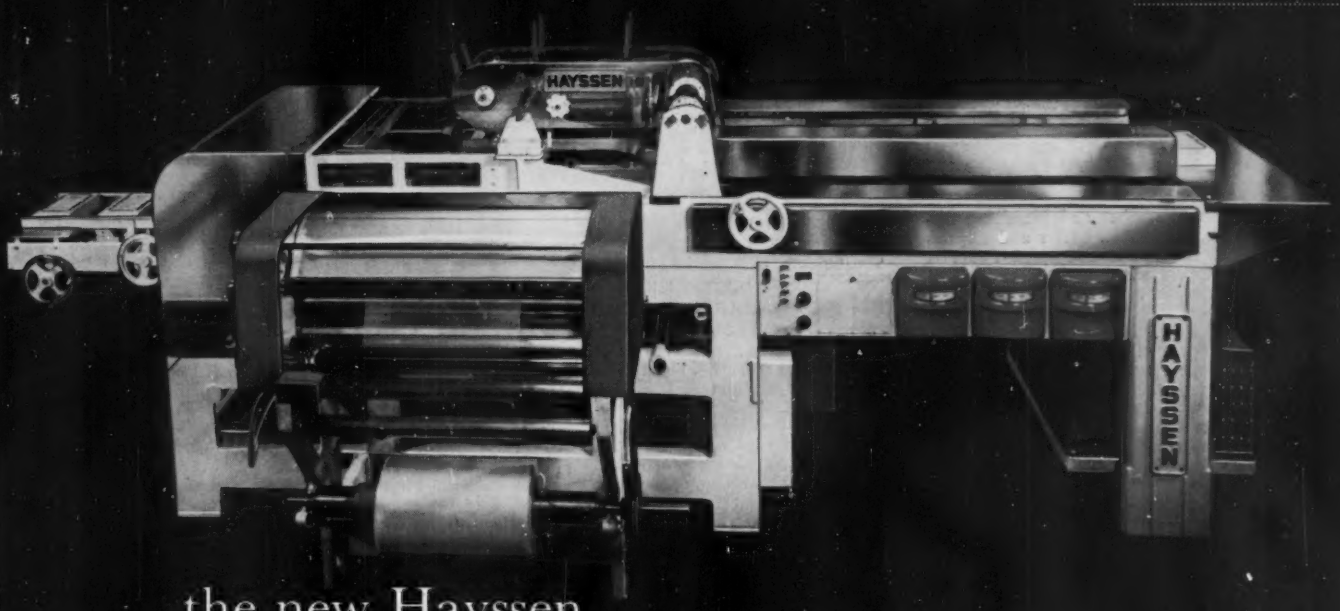
Jan. 18—**Bulk Packaging & Containerization Institute**, 2nd annual containerization and packaging seminar, Statler Hilton Hotel, New York.

Jan. 21-24—**National Canners Assn.**, convention and exhibit by the **Canning Machinery & Supplies Assn.**, Americana Hotel, Bal Harbour, Fla.

Feb. 6-8—**Society of the Plastics Industry**, 17th Reinforced Plastics Div. conference, Edgewater Beach Hotel, Chicago.

Feb. 19-22—**Technical Assn. of the Pulp & Paper Industry**, 47th annual meeting and technical sessions, Hotel Commodore, New York.

Packaging
Equipment News
from HAYSSEN



the new Hayssen
HIGH SPEED WRAPPER

solves problems of providing economical product protection

Hayssen's new line of wrapping machines automatically overwraps a wide range of products in all commercially available wrapping materials at production rates of up to 150 packages per minute.

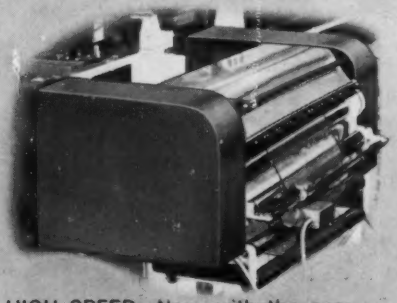
Key to the high speed wrapping machine's production is a new type rotary shear and continuous motion paper feeding mechanism. The latest in electronically controlled drive mechanisms provides simplicity of speed adjustment, positive brake action and extends service life. Time-proved folding and sealing techniques insure tightly wrapped packages without sagging or rounding of package ends. Traditional HAYSSEN built-in flexibility handles a wide range of product sizes.

Write, today, for complete details on these new machines and all HAYSSEN time and cost saving packaging equipment. Check the yellow pages for your nearest distributor. Sales offices in principal cities.

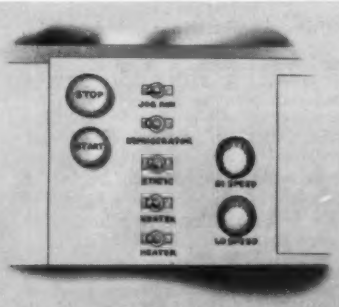
Exclusively Manufacturers of Packaging Machines Since 1910

HAYSSEN

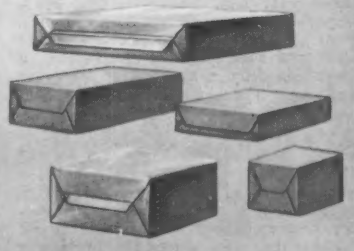
MANUFACTURING COMPANY • SHEBOYGAN, WISCONSIN



HIGH SPEED Now, with the new Hayssen High Speed, rotary shear overwrapper you can cut labor costs, reduce over-all machinery costs and put more profit into your production.



ELECTRONICALLY CONTROLLED New drive mechanism is electronically controlled to simplify speed adjustment. Also provides positive brake action and extends service life.



VERSATILITY The basic simplicity of Hayssen Wrapping Machines allows a broad range of adjustments to accommodate future changes in product size and to combat obsolescence.

U.S. PATENTS DIGEST

This digest includes each month a brief summary of the more important current patents which are of special interest to all packagers.* Edited by H. A. Levey.

A Carton Forming and Handling Apparatus, Thomas N. Carter and Thomas L. Ziliox (to The Champion Paper & Fibre Co., Hamilton, Ohio, a corporation of Ohio). U.S. 3,002,326, Oct. 3. A sealing apparatus for closing and sealing a container around the contents to be enclosed therein comprising an open-topped, table-like frame, a platen disposed beneath the frame and adjustable vertically toward and away from a horizontal plane passing through the frame adjacent to the top thereof.

Packaging Machine for Erecting, Filling and Sealing Plastic-Coated Paperboard Containers, Charles Z. Monroe and Harry B. Egleston (to Ex-Cell-O Corp., Detroit, Mich., a corporation of Michigan). U.S. 3,002,328, Oct. 3. In a packaging machine for erecting and closing the closure elements of containers having a coating of a thermoplastic material on the surfaces thereof, the combination comprising: means for preliminary closing the closure elements of the container, means for heating said thermoplastic coating on the sealing surfaces of the closure elements, means for closing the closure elements to bring said heated surfaces into surface-to-surface contact and means for applying a sealing pressure to said closure surfaces.

Packaging Machine, Herbert L. Wendshuh (to The Appleton Machine Co., Appleton, Wis., a corporation of Wisconsin). U.S. 3,002,432, Oct. 3. A method of automatically folding a flat card cut and scored to provide a front flap and two side flaps, said front flap having a diagonal slit adjacent to each end and said side flaps each having an angularly extending tongue at the end adjacent to said front flap.

Carton, Gordon Merkel and Costis John Paps (to Schmidt Lithograph Co., San Francisco, a corporation of California). U.S. 3,002,613, Oct. 3. A carton for packing two end-to-end rows of on-end cylindrical containers, said carton having the general shape of a rectangular parallelepiped, with four side walls and two end walls, with a narrow tear strip midway between the end walls running around three of said side walls capable of leaving most of said three walls in place when said tear strip is torn off.

Dispensing Cartons, Kenneth T. Buffery (to KVP Sutherland Paper Co., Kalamazoo, Mich., a corporation of Delaware). U.S. 3,002,667, Oct. 3. A dispensing carton comprising a bottom, front and rear walls connected to the front and rear edges of the bottom, a cover hingedly connected to the rear wall and a cover flap hingedly connected to the opposite edge of the cover.

Dispensing Carton, Normal J. Asman (to American Can Co., New York, a corporation of New Jersey). U.S. 3,002,673, Oct. 3. A reclosable dispensing carton formed of a single blank suitably cut and scored to provide a pair of opposed main panels, each of said panels having one of a pair of opposed edge-defining biased score lines extending from a lateral to a top edge near one corner thereof.

Bag Feeding, Valving and Sewing Machine, Clinton R. Hollis (to International Paper Co., New York, a corporation of New York). U.S. 3,002,747, Oct. 3. In a machine for finishing paper-bag tubes including bag-tube finishing means and combination bag-tube feeding means including rotatable first, second and third elements, means for operating said finishing means.

Apparatus for Detecting and Inspecting Articles in Containers, Thomas B. Sorbie (to Owens-Illinois Glass Co., Toledo, a corporation of Ohio). U.S. 3,003,627, Oct. 10. Apparatus for inspecting cartons with containers packaged therein, each carton adapted to hold a prescribed number of containers with the containers occupying prescribed positions within the carton, said containers normally having metal closure caps applied thereto.

Container-Segregating Apparatus, Albert Luther Henderson (to FMC Corp., San José, Calif., a corporation of Delaware). U.S. 3,003,629, Oct. 10. In an article-segregating apparatus, a deflecting assembly comprising a resilient deflecting member mounted in a deflecting position in the path of advancing articles to be segregated and capable of bending from said path upon contact by advancing articles.

Hinged-Cover Blanks and Cartons, William A. Ringler (to Diamond National Corp., New York, a corporation of Delaware). U.S. 3,003,674, Oct. 10. A one-piece hinged-cover carton-forming blank whose opposite end edges are designed to interfit completely in snug cut-like contact throughout the transverse width of the blank.

Carton, David B. Andrews (to American Can Co., New York, a corporation of New Jersey). U.S. 3,003,679, Oct. 10. Locking means for a carton, the carton including a pair of opposed panels to be locked together, each panel having a pair of side edges and an end edge, and the locking means comprising a pair of male members formed on the end edge of one of said panels.

Partitioned Container, Robert W. McCormick (to Container Corp. of America, Chicago, a corporation of Delaware). U.S. 3,004,696, Oct. 17. A hexagonal compartmented container comprising a body portion formed from a single, rectangular blank of foldable paperboard having six elongated panels of substantially equal width defined by generally parallel score lines impressed in the blank and extending from edge to edge thereof.

Bags, George H. Ashton (to Bemis Bro. Bag Co., St. Louis, a corporation of Missouri). U.S. 3,004,698, Oct. 17. A bag made of heat-sealable material having a front wall and a back wall joined at the bag ends by gussets and at the bag sides by heat-sealed seams.

Method of Packaging Annular-Shaped Articles, John W. Harrison (to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut). U.S. 3,005,542, Oct. 24. In combination, an annular-shaped article having inner and outer peripheral portions separated by side walls, a cover for said article made of a heat-shrinkable film, said cover having a pre-shrunk longitudinal center strip for covering the inner peripheral portion of the article and longitudinal unshrunk edge portions.

Closure Cap, Method of Making Same and Sealed Package Therefor, Harry E. Stover (to Anchor Hocking Glass Corp., Lancaster, O., a corporation of Delaware). U.S. 3,005,563, Oct. 24. A sealed package comprising the combination of a container, the finish of said container having an inclined sealing surface, a bead above said sealing surface and a closure cap having a cover portion and a depending skirt.

Wrapping Machine, Arthur L. Fingerhut (to General Foods Corp., White Plains, N.Y., a corporation of Delaware). U.S. 3,006,119, Oct. 31. Apparatus for wrapping a plurality of compressible packages positioned in an array which comprises a vertically movable elevator in a wrapping station adapted to receive said array, means for elevating said array and means for placing a pre-cut section of wrapping material on the upper surface of said array as the latter rests on said elevator.

Collapsible Container, Edwin L. Arneson (to Federal Paper Board Co., Inc., Bogota, N.J., a corporation of New York). U.S. 3,006,522, Oct. 31. An end construction of a cylindrical container member comprising a plurality of radially inwardly extending flanges and an end-closure disk supported by said flanges, each of said flanges being formed from a pair of interconnected fingers, one of which is connected to the body of said container member.

Container Construction, Alden A. Lofquist, Jr. (to United Shoe Machinery Corp., Flemington, N.J., a corporation of New Jersey). U.S. 3,006,527, Oct. 31. A blank cut and scored to form a liquid-retaining carton when folded, comprising a rectangular bottom and a first rectangular wall joined along one edge of the bottom.

Paperboard Carrier Having Means for Separating Cans Therein, Homer W. Forrer (to The Mead Corp., Dayton, O., a corporation of Ohio). U.S. 3,006,530, Oct. 31. A paperboard blank for forming a carrier for two rows of cans having top and bottom rim portions, said blank being scored transversely to define a first panel arranged centrally with respect to the length of said blank.

***For more detailed information, copies of patents are available from the U. S. Patent Office, Washington 25, D. C., at 25 cents each, payable in currency, money order or certified check. Postage stamps are not accepable.**

One-way bottle setback

The concept of the one-way glass container has received what may be a serious and far-reaching setback with the announcement by the Michigan State Liquor Commission that non-returnable glass beer bottles cannot be sold in that state after Jan. 20, 1962.

Although the edict is in the form of a regulation, it has the effect of a law, since the commission is empowered to regulate all liquor traffic in the absence of specific laws. Violators of the liquor commission's regulations are subject to fines, jail sentences or both. Because the Michigan State Liquor Commission's authority is restricted to alcoholic beverages, the regulation does not affect soft drinks in one-way bottles. However, MODERN PACKAGING has learned that there is a strong likelihood that the Michigan State Legislature will pass a law making it illegal to market all beverages in disposable glass bottles.

Glass-container industry reaction to the regulation—which does not affect metal cans—was swift in coming. The Glass Container Mfrs. Institute charged that the ruling has a discriminatory effect on the glass-container industry and that the commission's statement that disposable bottles encourage littering has no validity. At press time, GCMI reported to MODERN PACKAGING that it would air these views at a public hearing to be held late in December by the Michigan State Liquor Commission.

The commission's reason for issuing the regulation against disposable glass bottles is that they create litter in parks and on highways and, when broken, contribute a hazard to motor-vehicle tires and to the feet of park strollers. Cans were not included in the regulation, says a spokesman for the liquor authority, because they eventually rust and disintegrate, whereas time and weather do not affect the properties of glass.

Brewers contacted by MODERN PACKAGING report that they will abide by the commission's regulation and are discontinuing shipment of disposable-bottled beer to Michigan. The regulation presumably will benefit brewers within the state, since virtually all the disposable-bottled beer consumed in Michigan is shipped in from other states. ●

Fibre-box judges

Two panels of judges have been appointed by the Fibre Box Assn. for its 1962 fibre box competition. Judging of the event is scheduled to take place March 5-6.

Industrial panel: Lyle Powell, Jr., packaging coordinator, Jewel Tea Co.; Harry J. Bettendorf, president and editorial director, Board Products Publishing Co.; Larry W. North, chairman, Official Classification Committee; E. Zelinski, senior packaging engineer, General Electric's Hotpoint Div., and L. H. Zahn, director of purchasing and package development, Ciba Pharmaceutical Products, Inc.

Merchandising panel: Richard C. Reinhardt, publisher, *Modern Converter*; L. E. Thorp, manager, purchasing department, Quaker Oats; R. H. Bradley, assistant director of purchases, Procter & Gamble; D. J. Leeker, manager, package development and design division, Visual Merchandising Dept., Sears, Roebuck & Co.; Alvin Eisenman, president, American Institute of Graphic Arts, and Robert Lee Dickens, executive vice president, Robert Sidney Dickens, Inc. ●

Film valved bags

[*Continued from page 128*]

Union-Camp insert is reinforced at the top with gummed tape so that it lies flat against the upper end of the bag. The company reports that, by helping prevent the film tube from wrinkling and hanging as the bag is withdrawn from the filling spout, this design serves to minimize product siftage.

As of this writing, supply of this new type of bag is limited. The problem has been in production techniques, but this seems well on the way to solution. Practically all the major bag suppliers are working on this type of bag. In addition to those previously mentioned, the Kraft Bag Div. of Gilman Paper Co. has announced commercial production of bags with polyethylene film valve inserts based on excellent test results.

So confident is Union Carbide of the advantages of this valve design, that it has specified 100% use of bags with film valves for the company's huge East Coast terminal operation in Perth Amboy, N. J. ●

Light studies of seals

[*Continued from page 124*]

become more familiar with polarized light and how it can be used is referred to the several excellent publications in this field (4, 5, 9).

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Bakers set pace

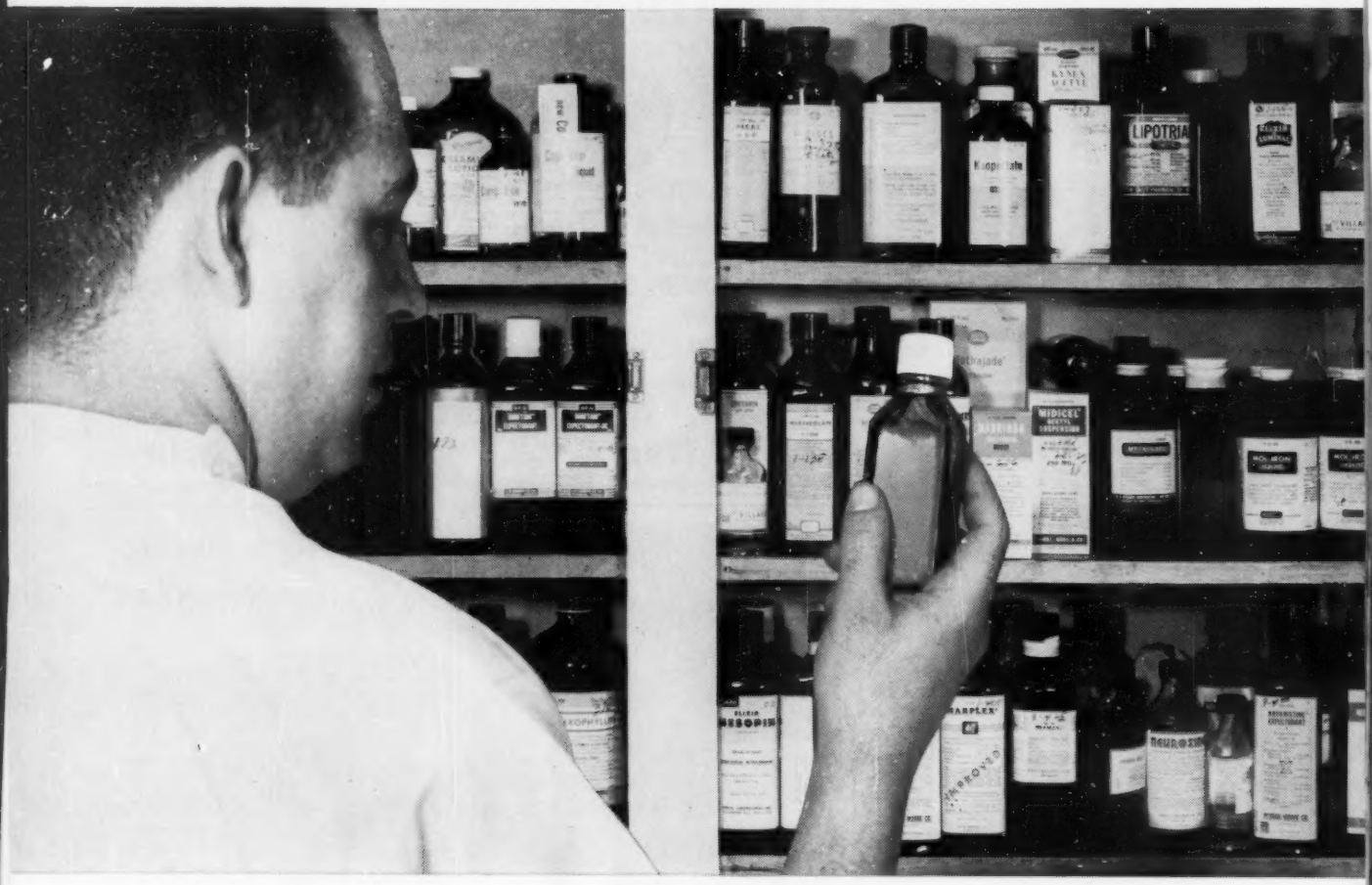
[*Continued from page 87*]

angled discharge conveyor, bags then pass through the twist tier to complete the job. The simple bag-making component could be integrated with a wide number of packaging devices and has more flexibility in package size than present automatic pouch makers.

The second machine (Schjeldahl) is really a new type of full wrapper, but it can be adjusted to make a "bag" with a bread-type end label on the bottom and a twist tie on the top. Principal feature of this machine is that it forms a side-weld seam, saving material and money.

To do this, loaves of bread are automatically pushed by a rotating arm into a vertical web of polyethylene film, thus wrapping the loaf in

BROCKWAY VISION IN GLASS



Pharmaceutical protection begins with these pure bottles

No other material matches Brockway amber glass in protecting valuable pharmaceuticals. And no other material emphasizes quality pharmaceuticals as well as glass . . . BROCKWAY VISION IN GLASS. Eye-catching glass flatters products it protects . . . prods fussy shoppers, makes them satisfied customers who *look* for pharmaceuticals in glass containers. (Just ask the pharmacy that stocks vitamins, or the mother who buys them.) Glass is the traditional protective container, the traditional sales producer.

BROCKWAY GLASS

COMPANY, INC., Brockway, Pennsylvania
Sales Offices in Principal Cities

SUBSIDIARIES: Demuth Glass Works, Inc., Parkersburg, W. VA.
Tygart Valley Glass Co., Washington, Pa.
Celluplastics Inc., Newark, N. J.

a tube of film. A heat sealer welds and cuts the web with only ¼ in. of waste material (compared with a seam of at least 1 in. on conventional wrappers). End folds are then pleated into place by flexible paddle wheels and the wrapper is secured by heat sealing and the addition of conventional end labels. If a twist-tied bag is desired, the heat sealer and labeler on one side of the exit conveyor are replaced by a taping machine (3M).

Meanwhile makers of wrapping machines have been increasing the performance of both thermoplastic and cellulosic films on their machines, too. Frequently, these improvements have increased machine performance for non-thermoplastic materials as well, particularly the polymer-coated cellophanes. Many of the new devices have appeared, or will appear on wrapping equipment for many other food products as well as for non-food items.

Roller heat sealers to apply end and bottom seals on bread wraps are now commonplace, but one new high-speed prototype wrapper (Package Machinery) has rollers covered with thick fabricated Teflon sleeves (instead of the customary sprayed-on coatings) to increase the slip qualities and life of the rollers. The side rollers on this machine are set into hinged sections that can be swung out for ease of maintenance or replacement.

Easy access also is the major feature of a new high-speed cake-wrapping machine using cellulosic films (Battle Creek). The whole top of this unit swings away to facilitate work on heat sealers or to clear away jammed packages.

On another high-speed bread wrapper designed particularly for thermoplastics (AMF), the bottom seals are made by heat sealers imbedded at intervals in a link-type product conveyor. This gives the requisite sealing time at higher operating speeds.

Apparently no packager has yet tried to wrap small cakes commercially in polyethylene film. But any baker attending the recent bakery show in Atlantic City who might have been considering it was anticipated by new equipment (Battle Creek) that not only applies the wrap efficiently, but also perforates the film and adds a polyethylene-coated cellophane tear tape so that the consumer can easily open the heat-sealed two-cake package.

All of these devices have obvious applications in other wrapping machines and fields.

As with any basically new thermoplastic film, polypropylene has had problems, too, most of which are being solved by special devices on wrapping equipment.

Most important is the difficulty of cutting regular polypropylene with conventional knives in the web-feed section of a wrapping machine. This has been overcome with a heated cut-off knife that combines mechanical and thermal techniques for greater efficiency. Devised by a film supplier (AviSun), the attachment can be installed on many of the standard wrappers in the bakery field and may be adapted, as needed, to non-bakery applications. It should be noted that this problem may not exist with bioriented polypropylene. Because of its molecular orientation, this film is said to divide easily with ordinary knives.

These improvements in wrapping equipment, however, may not be enough. Both machinery makers and users say they are dissatisfied with even the best wrapping speeds now attained with either thermoplastic or cellulosic films because production output of the newest automatic *baking* equipment is said to exceed 100 loaves per minute. Yet the swiftest current wrappers can handle no more than 80 per minute. Most significant of all, 80 per minute appears to be just about the limit for bread-wrapping machinery of conventional design. For frozen foods and other products a similar situation exists at a higher level of speed.

Machinery builders are now considering the design of radically new equipment that would break through this barrier with all thermoplastic films. One hindrance to such a machine was cleared away at the baking show by a new bread slicer (Battle Creek) that can handle more than 100 loaves per minute. Although this non-packaging development might not seem relevant, the previous lack of such a machine had made the design of a truly high-speed wrapper less than pressing. Now the stage is set for the adoption of new wrapping principles in the baking field—and advances here have traditionally carried over into all film-wrapped products. ●

Hazardous labeling

The Federal Hazardous Substances Labeling Act—which requires special warning labels on all containers holding potentially injurious ingredients designed for household use and whose penalty provisions are scheduled to go into effect Feb. 1—was a major topic at the Manufacturing Chemists Assn.'s recent semiannual meeting in New York.

Packagers who are worried about the problems of complying with the letter of the law within the small time remaining to them got a word of comfort from Franklin D. Clark, assistant to the Deputy Commissioner of the Food & Drug Administration. Mr. Clark noted that "we are reasonable people and we will not be too disturbed over technical violations. However, packages must comply with the spirit of the law." He added that F&DA is accepting petitions for exemption from products that meet the technical definition of a hazardous substance but "from the laboratory of human experience, are not harmful."

George Scriba of Union Carbide Corp.'s legal department (and vice chairman of MCA's Precautionary Labeling Committee), speaking for packagers, said that "products presently bearing precautionary labeling which protects us against civil liability will substantially comply with the Federal Hazardous Substances Labeling Act."

Touching on the much-discussed topic of warning-label prominence, Mr. Scriba noted that "the obviously deliberate omission from this labeling statute of the traditional reference to location and type size in such laws seems to mean that Congress recognized the almost infinite variety of ways in which modern packaging designers can achieve conspicuousness and did not intend to impose type size and location requirements."

J. W. Hammond, chief industrial hygienist of Humble Oil & Refining Co., discussed test methods involved in determining whether a product comes under the hazardous-labeling law. Noting that "human experience takes precedence as a guide for the label contents over animal data," he made the point that some tests approved by the F&DA are impractically severe. He expressed the hope that "alternative equivalent methods" may be approved. Moderator of

the panel session was Edward J. Hogan, packaging coordinator, Allied Chemical Corp. In his introductory remarks, Mr. Hogan observed that a proposed bill in the House of Representatives authorizes an extension of the effective date to Feb. 1, 1963. ●

Fire destroys records

A fire at the Wright-Patterson Air Force Base in Ohio has destroyed all the records of the Packaging & Materials Handling Division of Air Force Logistics Command headquarters. Division officials ask that any business firm or industry group which had for any reason submitted data and reference material prior to the fire submit duplicate copies. The request is being made in order that the division can rebuild its files and re-establish communications with firms with which it had been doing business.

The information should be sent to: Chief, Packaging & Materials Handling Div., Headquarters, Air Force Logistics Command, Wright-Patterson Air Force Base, Ohio. ●

Basic research in ink

Vital investigations into the basic nature of printing inks and coatings used in packaging will be undertaken at a new 190,000-sq.-ft. scientific center recently opened by Sun Chemical Corp. in Carlstadt, N.J.

Strategically located within 10 miles of 11 divisional plants—where new ideas can be rapidly checked for commercial feasibility—the multi-million-dollar center is also close to the company's main headquarters in New York. The large glass and brick structure is completely instrumented with modern electronic apparatus and also contains an experimental press room for preliminary testing of new lithographic, gravure, flexographic and letterpress inks.

Initial projects in packaging will include development of organic colors for printing inks, synthesis of new resins for coatings and the adaptation of such novel organic materials as alpha-olefins.

The laboratory also contains a standardization unit where the latest analytical equipment is used to pinpoint exact shades of inks made in Sun plants around the country. ●

S. C. Johnson entry wins aerosol competition

The simple, clean-cut surface design of the pressure-packed container for S. C. Johnson & Son's Glade, an air freshener, triumphed this year over a record 500 entries in the aerosol industry's 10th annual packaging competition. Winners for design were announced last month during the annual meeting of the sponsoring organization, the Chemical Specialties Mfrs. Assn., in New York. The Glade aerosol also took top honors in the room-deodorants classification.

Best of show

House of Fragrance, Inc., and two British companies, Mondart Limited and Durazone (Sales) Limited, grand prize winner last year, won two awards each this year.

The American company's dressing-table-size glass container for L'interdit Mist Concentré was a winner in that portion of the perfumes, colognes and toilet-waters class, and its purse-size aerosol for Crepe de Chine was chosen in that container group of perfumes, colognes and toilet waters. Third winner in this product class was a dressing-table-size metal container of Rexall Drug Co. for its Shari Mist Cologne.

British entries, which have done well in previous competitions in this series, captured six prizes. Mondart Limited's Max Fly Killer was rated the best-designed package among insecticides, repellants and moth-proofers, and it was selected as the best foreign entry in the competition. Durazone's Dew Garden Spray won among horticultural products and its Tex Sunspray among personal products. Among hair preparations, French & Scott Ltd.'s French of London Spray Set was the winner, and among veterinary and pet products, Messrs. Osmonds (Pharmaceuticals) Limited's Aerosol for Protection of Bitches in Season was ranked first.

American winners in the other product classifications were: automotive, Bumper Wax, Turtle Wax, Inc.; food, Reddi-Wip Whipped Cream, Reddi-Wip, Inc.; household, Spray Wax for Furniture, Renuzit Home Products Co.; industrial, Dry Lube, Brandywine Photochemical Co.; medicinal and pharmaceutical, Atha-Spray, Young's Rubber Corp.; paints, enamels, other protective coatings and paint remover, Fixatif Spray, Eagle Pencil Co., and shave products, Seaforth Spiced Minute Shave, Chesebrough-Pond's, Inc. ●

Green Giant takes a step—boil-in-bag frozen foods

[*Continued from page 97*]

form-fill-seal equipment as soon as volume—said to be on the upgrade in initial markets—warrants it.

The four products now in the line were introduced in Phoenix, Syracuse, Miami (Fla.) and Columbus (O.). The number of marketing areas will be increased gradually this year. In addition, the product line will be expanded to include three or four other vegetables. All Green Giant boil-in-bag products are frozen in butter sauce.

While this is Green Giant's first move in the boil-in bag, the company is not a newcomer to frozen foods. It introduced frozen peas in an overwrapped carton in the early '50s, but did not pursue the project enthusiastically, although it had a long record of success as a contract packager of frozen foods. At the time, the profit on canned peas was considerably higher than on the frozen item, so the cans were pushed more energetically. However, according to the executives responsible for the new project (George Stillman, frozen-foods marketing director, and M. Crawford Pollock, in charge of corporate marketing), Green Giant believes that the boilable bag is the key to a successful re-entry by the company into the frozen-foods field.

It is still too early to tell whether Green Giant is on the right track. But its fresh approach to merchandising the boil-in-bag packaging concept will be watched by all frozen-food packagers. It could be just the push needed to get this promising packaging development into really high gear. ●

Compression tests

An overwhelming need and desire for a standardized test method for measuring the crush resistance of folding cartons exists among interested members of the Packaging Institute, the Bulge and Compression Subcommittee of PI's Folding Carton Committee has discovered.

As the result of a subcommittee survey indicated interest in this subject, the committee has selected two instruments—National Forge 100# and Instron TM with compression cells—for a round-robin program of compression testing.

The survey disclosed great interest in compression resistance, but a lack of specifications in terms and in meaningful testing. Although most respondents concern themselves with board caliper and basis weight in purchasing or supplying cartons, fewer than one quarter specify crush or compression instrument tests.

H. E. Cramer, Diamond National's Gardner Div., subcommittee chairman, is organizing the proposed round-robin test among committee members having plants equipped with the two instruments. Survey findings described above appear in "Special Report 61-1, Bulge and Compression Testing," available at $1 per copy from the Packaging Institute, 342 Madison Avenue, New York 17. ●

Package that waited

[*Continued from page 103*]

the record and the libretto. The back portion of the frame, linked to the front by a series of intermittent, integral hinges, is more complex and has a larger polypropylene surface than the face. It holds a circular inset snapped in place and secured by molded lugs arranged in an intricate self-locking sequence. The four corners of the frame are attractively textured. The oval Capitol logotype, molded into one corner, can be seen through the polystyrene face. Finger holes in two of the corners facilitate record removal. The back inset has a center pin to position the record; the front inset contains four nibs to hold the libretto in place.

Capitol promotes the new album as much as the new sound, saying that this "revolutionary packaging" constitutes "regal treatment." ●

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OVERWRAP MACHINES—2 Hayssen Model 55L. Four years old, excellent operating condition. Wrapping Leads for 7 sizes 5¼ x 3 x 5½ to 6¾ x 3¾ x 2¾. Can be adapted for other sizes. Priced right for immediate sale. Machines may be seen prior to sale. Contact General Electric Co., Purchasing Dept., Owensboro, Kentucky.

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MODERN PACKAGING AND FOOD PROCESSING MACHINERY—Package Machinery Models FA, FF, FFH, FA2, FA3 and FA4 Wrappers with and without Electric Eyes and Tear Tape Units. Also Models F and CM-3 available. Hudson Sharp Campbell Models 2W6, 2W8 and 2W10 Wrappers. Hayssen Wrappers, all types and sizes. Wrap King Models DW, DW3, DW-4 and M2 Wrappers. Scandia Automatic and Semi-Automatic Wrappers. Package Machinery Model TWC Polyethelene Transwrap with Net Weight Scales and Electric Eyes. Ceco Models 45, 40, A-3901-12 and 18 Cartoning Machines. Package Machinery Palmer PA Carton Gluer and Model PCB Carton Closer. Pneumatic Scale Automatic Carton Feeder, Bottom Sealers, Wax Liners, and Top Sealing Units with interconnecting conveyors. Oliver Model 804 Top Labelers. Standard Knapp Model A Vertical Wraparound Labeler. Standard Knapp and Ferguson Case Sealers. Fillers, Labelers, Cappers, Mixers, Grinders. UNION STANDARD EQUIPMENT CO., 318 Lafayette Street, N. Y. 12, N. Y. Phone: Canal 6-5334.

DISCOUNTS ON USED Packaging Machinery. Biner-Ellison Labelmatics, Filabelmatics, Feedomatic-Air Cleaners—Cappers, Single and Multi-head—Liquid and Viscous Fillers—Labelers, spot, front and back, neck band—Case Gluers, Packers, Compression units—adapted and guaranteed—trades—terms arranged. Package Machinery Exchange, Inc., 528 Bergen Street, Brooklyn 17, New York, ST. 3-6100.

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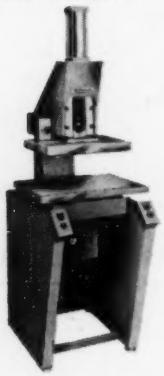

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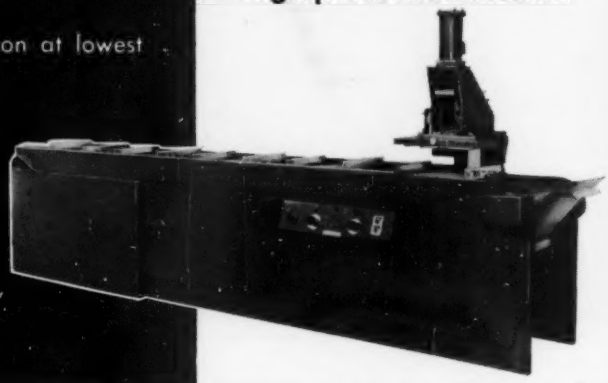

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